PRANG'S NEW GRADED COURSE IN DRAWING FOR CANADIAN SCHOOLS

BOOKS I. AND II.

TEACHER'S MANUAL

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TEACHER'S MANUAL

FOR

PRANG'S

NEW

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Graded Course in Drawing

BOOKS I. AND II.

FOR CANADIAN SCHOOLS

F. E. GRAFTON & SONS

MONTREAL

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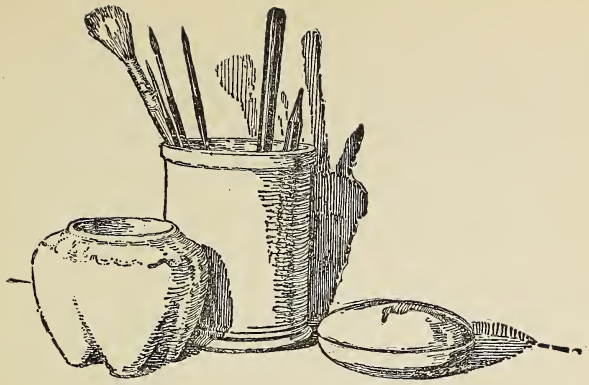


PREFACE.

THIS course of instruction presents a means of mental development indispensable in the education of every child, as leading to a knowledge and appreciation of the beautiful.

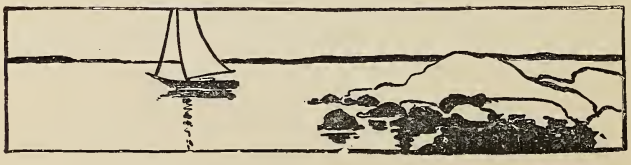
The editors have arranged the work of this Course with special reference to Canadian conditions. Drawing is used as a means of training the eye and hand and as a language by which the pupil not only expresses but impresses his thought. Still further, in the "making" required in the study of the models and objects, the ability to use the hands is trained and encouraged, the creative faculties are developed, and thus manual training, with all its healthful influences, is begun. Pupils going through this Course will not only be led, through the cultivation of their observing powers, to take a lively interest in the forms of objects around them, but will also become

conscious of the power of expressing their ideas of such forms by drawing, whether with regard to their facts as seen in working-drawings, to their appearance as seen in pictures, or to their decoration; at the same time, while the eye has been trained to observe, and the hand to draw, the mind has been constantly unfolding through perception, thought and expression.

Still further, it is a distinct aim in this Course to lead pupils to an appreciation and love of the beautiful as found in Nature and as expressed in the hand-work of man. What man has done, what he has created, is Art.

It is hoped that the work in this Course may lead teachers and pupils to a free use of Drawing and Color as an aid in other studies. Drawing, especially, should be as much at the command of every teacher and every pupil as writing and speaking, and should be as freely used.

Teachers should seek every opportunity to apply the work in other studies, and encourage pupils to use it as a means of expression generally in their school lessons.



INTRODUCTION.

ART AND ART EDUCATION.

This is, in brief, the general idea of art which the authors aim to embody in the present treatise. If teachers grasp the underlying idea, they will naturally use more consistent and practical methods of class work than are sometimes followed in a haphazard way in the absence of any real understanding of what art is.

To teach these ends necessarily implies careful training for the pupil. Drawing is not "natural" to children in the same sense in which speaking, walking, and eating are natural. Counting out the rare artistic geniuses that appear not once or twice in a whole generation of children, it must always remain true that good drawing cannot be secured merely by giving children opportunity for the expression of their present selves, but by sympathetic, intelligent, conscientious training, leading them toward still higher stages of appreciation and of creative power.

Yet the development of personal skill in drawing is only a part of the purpose of the course. The cultivation of readiness in the use of drawing in connection with other studies is also a part of the purpose. These are means toward an end. The end is twofold—it includes the development of individual creative power, each child rising gradually from the point where he enjoys only the sort of thing which he can do for himself, up to a point where he is able to enter in some measure into the thought and feeling of really great artists.

WHAT IS NEEDED FOR ART TRAINING.

In addition to drawing-books and manuals, the teacher should be supplied with material which will serve to educate and elevate the pupils—objects of nature and of art which will help in the formation of ideals. Growing plants in the windows of the schoolroom will do much to bring the child to a love and appreciation of nature.

Types of form—the type models and types of color, as found in the color unit—are needed as standards by which to classify and to appreciate general form and color. Beautiful objects of art as subjects for study and for drawing, aid very much in the cultivation of taste. A collection of fine pottery-forms is a valuable adjunct in art instruction. For further instruction about materials apply to The Prang Educational Company, 3 and 5 West 18th Street, New York.

In selecting natural objects of any definite kind for form study and drawing, the guiding thought should be to choose characteristic and beautiful examples.

Pupils will gain in individual expression and appreciation by seeing beautiful things, just as they gain along similar lines by hearing and reading fine examples in literature. Therefore, in order that the child may develop in a natural manner, it is hoped that the teacher will accept with tranquillity even very crude results, if they express the best efforts of the pupil.

And finally, examples of the great art conceptions of the world, simply framed and hung upon the walls of the schoolroom, will create an atmosphere of fine thought and feeling conducive to that appreciation and production of the beautiful by each individual pupil for which Art Instruction aims.

In submitting this Manual to the teaching profession, the aim has been to anticipate difficulties, render assistance, and simplify the way for teachers taking up the work for the first time without having the advantage of previous instruction.

We have suggested methods of procedure as a help—nothing absolute—as we would be very sorry to circumscribe the efforts of a faithful teacher in any respect.

We simply suggest a means for carrying on the work of each page of the drawing-book, and make suggestions for the choice of one or more arrangements for a completed page.

We have given typical lessons, profusely illustrated the various points, and trust that after years of experience directly along these lines, we are able to be of such help that the good cause will develop throughout the breadth of Canada as successfully as it is doing elsewhere.

First efforts on the part of the pupil will be crude if honest. The result of the whole subject is a growth. Be content to obtain three or four satisfactory specimens as a result of an exercise, out of a class of forty or fifty pupils to start with.

Some teachers have come to us most discouraged at the result of first efforts, who now are more assured.

From experience we would emphasize the following: Each exercise should be carefully worked out by the teacher from the Manual previous to appearing before the class. By so doing— First, you will be better enabled to prepare for the lesson respecting materials, objects required, paper necessary, etc.; second, difficulties will arise which will be easier solved when alone; third, best methods of presenting the subject will be acquired; fourth, you will be able to concentrate your mind on the carrying out of the lesson rather than upon the lesson itself.

These manuals are compiled largely from the books issued by the Prang Educational Company. Personal experience and the need of the Canadian schools have led to some changes.

Compiled by { Marion L. Simister and Ada D. James.

Montreal, August, 1903.

THE THREE DIVISIONS OF ART STUDY.

Representation, Construction, and Decoration.

I. REPRESENTATION.

Representation is the science and art of delineating or representing objects as they appear to the eye. It concerns picture-making. The *appearance* of the form of an object, seen from one standpoint, may be very different from the facts of its form. It must be recognized that instruction in drawing the appearance of objects must relate primarily to instruction in *seeing*, and that pupils fail in drawing the appearance of objects more from inability to *see* than from inability to draw. In general, all persons not trained to habits of correct *seeing* are predisposed toward drawing or representing the appearance of objects according to the idea of the facts of the form which the sense of touch has fixed in the mind. This is easily accounted for by the fact that, until within a very few years, it has been thought that the appearance of an object must be entirely drawn from a knowledge of principles instead of through seeing. The drawing of the appearance was therefore postponed until pupils were ready to learn perspective. Such a postponement is now considered uneducational, and pupils are now led first to see the appearance of objects, and then to show by drawing what they have discovered through seeing. Many pupils will have had no previous opportunity for such work; special stress must be laid, therefore, on work in *seeing*.

But Representation of visible things is not all. The art is more truly called an expressive art,—the art of expressing conceptions,—for it enables a person to express by drawing ideas of things not really existing—a noble thought or a beautiful idea. The power to think the thought and conceive the idea is inborn; but the power to represent the thought by drawing must be acquired, and generally comes only by careful training.

Copying Good Examples.—The work in Representation should not be confined to drawing from models and objects only; there should be good and careful study through copying good examples. The copying should not be superficial and imitative, but should be rather an endeavor to enter into and represent the feeling of the one who drew the example. True copying is endeavoring to see and to draw what the eyes of another and a greater has seen and represented; drawing from models and objects is seeing through one's own eyes. To the advantage of personal experience in any study there should always be added the advantage of the richness of others' experience. The work in Representation should be presented by the teacher in this spirit, developing in the pupils, not merely reliance in their own ability to see and to draw, but also an appreciation and admiration for what has been done by others, with a desire to attain through earnest study to real art expression.

The illustrations on the drawing pages are printed to give pupils good examples of form, line, and composition; to interest them in the work of others; to lead to a higher standard of excellence than exists in the individual, and to be a stimulus and help to the pupils by their suggestiveness as to subject and as to manner of rendering. They assist in providing a regular sequence of study and save time of teacher and pupil. Good copies are as necessary and helpful to the child as art studies to the adult. In some cases the children may gain much by copying, although the examples are of such a character and so arranged that there is abundant opportunity on every page for free, original, and individual work. The exercises require drawing

From Nature,	From Art Examples,
From Objects Made by Man,	From Memory,

to culminate in composition, the work of the creative imagination.

Remember that a drawing may be absolutely correct as far as giving the principles governing the appearance of an object or group or scene is concerned, and yet be wholly without what is known in art as expression. Lead your pupils through the study and sympathetic drawing of good examples, through a store of associations in literature and in life, through a spirit of recognition and appreciation *to a conscious feeling for the beautiful, and a desire for its expression in drawing.*

As the artist feels for the surface of his object, he unconsciously adapts his lines to expressing this feeling. Feeling counts for more than physical seeing in all nature work.

Quality of Line.—Every drawing should show a feeling for the character of the material of the object drawn. This is always seen in what is called artistic rendering. Natural objects differ from manufactured objects in substance and texture, and they have varying outlines. The wooden models are exact in form and outline; therefore, in drawing their outlines, a more definite, but still transparent, line should be used.

Outlines not only vary in direction, but they are more decided and definite in some parts than in others. This variation in direction and in definiteness is expressive of the varying forces of life and growth, and must be rendered by a similarly varying line in the drawing. A lemon, being somewhat indefinite in outline, on account of the peculiar texture of the skin which holds its delicious fragrance, should be drawn with a line varying in thickness and not quite continuous. The skin of the apple is smoother; this will need a somewhat lighter line and more continuous throughout than the line of the lemon. Remember, also, that it is the general form which should be expressed, and not the small details.

Rest Line.—In order to show that an object or group is resting on something, a rest line is frequently added. A good general rule for the placing of this line is to place it so that it will contain the bases of all the objects. This rest line should always be lighter than the outline of the objects, so as to express distance and subordination.

RENDERING.

Outline—Light and Dark, Light and Shade.—There are three ways of carrying out a picture with pencil, pen, or brush in monotone—in outline, in light and dark, and in light and shade. In outline, as described above, the lines should vary according to texture and importance, and a slight expression of light and shade may also be given.

In what is known as light and dark, color contrasts and values are shown by means of masses of light and dark in two or more tones. Examples of color

and of pleasing space relations by light and dark will be found throughout the drawing books. In light and shade, the effect of sunlight and shadow is represented.

Blocking-in.—It is a great art principle to look for the mass first, whether in form or in light and shade. Every exercise in Representation should tend to fix this great principle. Blocking-in, that is, getting the general shape and proportion in the quickest and simplest manner possible, is one of the means by which attention is directed first to the mass, the object as a whole, rather than to the details; to the group as a whole rather than to individual objects in the group. Therefore it is well to block-in an object or a group. But very few lines should be used, for if every change in direction should be represented by a line, the process of blocking-in would be that of studying details. The special points in blocking-in are proportion of the mass, shape of the mass, size suited to the space. There is no rule for blocking-in which excludes any of these conditions; any of these ways may be taken which will help to express the general shape of the mass. The blocking-in lines should be very light, that they may not interfere with the later stages of the drawing. And there should not be a feeling that they must be absolutely adhered to; it frequently happens that changes are found necessary as the drawing progresses.

Blocking-in has more than the immediate effect of getting the shape of the particular thing to be drawn. It induces a habit of mind; it leads to study of the mass everywhere, to large views, to look at the whole before the parts, beginning first in judgment of form in mass, then in detail of a group of forms, continuing this habit in judgment of actions and of events.

A Group.—In making a group, determine the idea to be expressed, thus leading to the selection of objects having harmonious relations. The idea of the group, then, controls the selection of the objects. Here again appears the maxim, as true in art as in education: *the whole before the parts.* If the idea is to express the beauty of fruit, let the group be wholly of fruit. If to express the beauty of vegetables—fruits of the earth—let the group be wholly of vegetables. A variety of things having no apparent connection with one another gives no pleasure in the picture, and distracts rather than composes. For instance, a group of delicious fruit with rougher vegetables seems

inharmonious. The two subjects have not enough in common, either in the purpose which they serve, or in their general appearance. The arrangement is incongruous. Only the most hardy fruit should be grouped with vegetables.

The Arrangement of a Group.—If a picture of a group is desired, it will not, then, be satisfactory to place the objects at random and draw them. Some thought must be given to the arrangement; for, if arranged in one way, the group may be very pleasing, while if arranged differently, the group may not be at all pleasing. If such arrangements are considered thoughtfully, it will be found that, in the one case, the simple principles of elementary composition have been regarded, and in the other they have been disregarded. It will be found, moreover, that these principles of composition are so simple and natural that children may be led to discover them. In studying the arrangement of a group consider,—

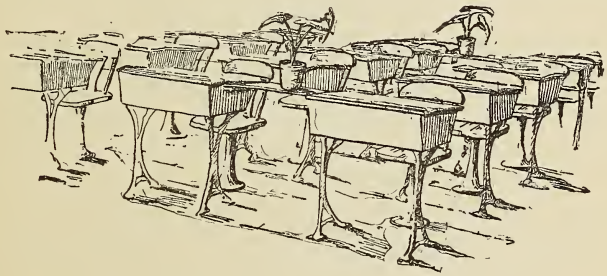
1. The place of the principal object.
2. The place of the secondary objects.
3. The figure made by the group on the table.
4. Partial view of some of the objects.
5. Upper line of the group.
6. **Variety** in the position of the axes and in the faces visible.
7. **Repose** of the objects.
8. **Unity** of the group—distance between objects.

(1) Choose the principal object, and, generally, place it centrally but not exactly in the centre; (2) do not place the other objects in a straight line with the principal object; (3) try the effect of placing the objects so that if the centres of their bases were connected an irregular figure would be made; (4) place them as if they were good friends and belonged together, and (5) so that they will appear at rest. But remember (6) that the objects should not have the same positions, that is, their axes should not be all upright or all horizontal; they should not be parallel or at right angles to each other; and they should not present exactly the same faces; and (7) one of the objects should be partially hidden behind another, even if there are no more than two objects in the group. Look now (8) to see if, in the group that you have made, the objects will appear of the same height when drawn. If so, change them, for the effect will not be pleasing. By skilful questioning the pupils can be led to these points.

It will be noticed that unity, repose, and variety are emphasized as of particular importance. They are indeed essentials in all good pictorial composition. Both variety and repose should be tributary to unity in any composition. Where unity is lacking, repose is always lacking.

Consider also the arrangement with reference to carrying the eye into the picture. Placing one object farther back than another suggests distance into the picture, which is always pleasing, as it brings with it the feeling of freedom and atmosphere. If one of the objects is placed so that its axis or its leading lines tend from you, it will aid in producing the effect of distance.

And as a test of the whole, consider the general space relations. This may be shown in a very satisfactory way by enclosing the group, as it were, by observing it through an oblong opening cut in paper, which will make a frame for the group. The hands held first vertically and then horizontally also suggest a frame.



Placing Objects or Groups.—Thought should be given to the placing of the various sprays, objects or groups, so that they may be advantageously seen. It is always better for a pupil to draw from an object or group on some desk other than his own, to get the softening and unifying effect of distance; and frequently it is well that the object or group drawn should be at considerable distance. After the objects or groups are placed, let each pupil look about the room to find that which he likes the best and which he can see in its best position; for art seeks for the best.

The placing of objects is generally something of a problem. But in the case of an upright cylindric or conic object, which always appears the same, the solution is easy. Boards may be procured long enough to extend across the aisles between the desks. Two such boards would be required for each aisle, one being needed at the front and one half-way down the aisle. Cleats may be screwed on the ends of the boxes of the desk to serve as supports for these boards when they are needed for the drawing exercise. The other aisles will be left free for the teacher or pupils. At the close of the exercise, the boards can be removed and put away.

Other models and objects may be arranged on the desks. Each pupil may pile three or four books far back upon the desk, alternately at the left and right. If there is absolutely no level part of the desk, raise the pile by placing a folded paper under the front, so that there may be a surface about level for the models. On the upper book place a sheet of manilla paper, and then arrange the models or objects to make a pleasing group. Be careful that the objects are not too far below the eye.

If branches are to be drawn they may be hung in various places, so as to give the best opportunity for study to the greatest number. If they are hung on the blackboard for the pupils in the front seats, a piece of white or neutral-tinted paper should be placed behind them. A paste-board folded like a table picture-frame or an open book standing on a board across the aisle serves very well as a support for a small branch.

A spray of leaves or flowers should be studied from all sides to discover its most pleasing aspect. It is well to have a spray placed in a vase of good form; if that is not practicable, it is frequently possible to keep the spray in good position by placing the end between the leaves of a closed book which is standing. It is well, also, to have the spray at some little distance from the pupil who is drawing it. It may sometimes be desirable to remove part of the stem or a leaf or two, or perhaps to add another spray in order to get a good effect. The Japanese make the arrangement of leaves and flowers a very serious study. There is an interesting book by Condor on this Japanese art.

II. DECORATION.

Decoration is the science and art of producing beauty in ornament *by means of well-composed spaces and harmonious arrangements of lines, of masses of light and dark, and of color.*

Ornament, the product of purely decorative art, is always employed to beautify objects created for some purpose, independent of their decoration. It is truly an expression of love for the object—a desire to make it beautiful. It produces its legitimate effect when, without concentration upon itself, it makes the object to which it is applied more pleasing than it is when unadorned.

Fitness to its purpose is the underlying principle—the very corner-stone of all good ornament. From this principle of fitness for its purpose there arises the fundamental law of ornament—subordination. This law requires *that all ornament shall be modest and moderate.* Strong contrasts and striking effects violate it. Illustrations of this requirement in matters of good taste in general are familiar to all. A loud voice in conversation is not excusable; a forward, self-asserting manner is a mark of ill-breeding. This requirement holds good in all ornament, whether architectural, domestic, or personal. He is not well dressed whose dress is conspicuous; that house is not well furnished where the furniture is obtrusive; that building is not well ornamented whose decoration is not subordinate to the idea of the building.

The study of historic ornament leads more and more to its interpretation as a visible manifestation of the history, life, and spirit of the people who produced it. The contact of various nations or peoples, either through war, commerce, or travel, can be traced in their ornament; and it is an evidence in the various phases of progress and civilization.

Nature in Ornament.—The laws of growth, which are recognized and recognizable in all good ornament, are derived from the laws of growth in nature. It would be a mistake, however, to conclude from what has been said, that a pictorial imitation of nature is good in ornament. A pictorial imitation of nature represents the accidents of growth. Order, regularity, and symmetry are the normal laws of growth, while the irregular is accidental. This idea is developed in the treatment of conventionalization.

The purpose is entirely distinct from that of botanic study. In botanic study, the various parts and organs are studied with minuteness, and all the wonderful structure is revealed. In studying a flower for decorative purposes, the details are not taken up, unless for a special end; but the general plan as to form is studied, and is rendered with faithfulness to the type form, and not to the individual.

Lead pupils as deeply as possible into the study of nature, in order that they may see for themselves the *spirit* of the plant which they are studying, as well as the more formal matter of arrangement. Then let them *idealize* plant forms for use in ornament, by keeping the characteristics of growth, curvature, and proportion, while simplifying outlines and omitting details.

Rosette.—A rosette may or may not have an enclosing figure. When it is desired for any reason to call particular attention to the shape of a rosette, an enclosing figure is added to emphasize the shape. A rosette is usually made up of symmetric units, which occupy equal *fields*. A field is that part of the ground of a design that a unit is to occupy. If the rosette is from a flower form the number of units is determined by the petals in the flower chosen. To aid in preserving the symmetry and order of the rosette, the axis of the units should be drawn. In a circular figure, the radii of the circle will serve as axes of the units.

The unit, however, must not touch the enclosing circle, for that would give a crowded look; a feeling of restriction and constriction would ensue, and the repose of the figure would be lost. A space, therefore, should be left between the ornament or filling and the enclosing figure; at least two-thirds of the ground should be filled. A skilful teacher will lead pupils to this study of space relations. A decorative figure should be drawn in the simplest possible way. It should be drawn with intelligence, with strength, with purpose, with firmness. The line should be open in texture, of an even gray color, and of an even width. Venation may be expressed (it should be very sparingly, however) by a line tapering in width. Unevenness of line in decorative outline detracts from repose.

Accent in line—that is, the line rendered as it would be in pictorial drawing—is out of place in flat decoration. The line may sometimes be irregular, as in the drawing of historic ornament, but it should retain the effect of flatness.

In the subject of Decoration, aim to increase the productive power of the pupils, not only through a study of Historic Ornament for its beauty and for the elements that go to make up that beauty, but also through exercises in Decorative Design. Thus creative activity, stimulated and enriched by the study of the beautiful in ornament, will ultimate in productive power.

Decorative Treatment.—The decorative treatment of a natural form occupies a middle ground between a picture and a *decorative design*. In all three, the composition of line, mass, and color is a decided element. In a *decorative design* the composition has a geometric basis; while in a picture and in a *decorative treatment*, the composition depends on agreeable contrasts of line, mass, and space, with more regard to pictorial effect than to geometric order. In a picture, the representation of the object in light and shade, with all the harmonizing accessories of composition of line, light and dark, etc., is the main thing. In a *decorative treatment*, the composition of line, mass, and color is the chief element, while the representation is carefully kept. The drawing is true and spirited, but without the pictorial element and the modelling given by light and shade. The contrasts are not of light and shade, but of light and dark, or of light, dark, and middle tone. Everything is kept in flat effect, whether the work be in black and white or in color.

Mr. La Farge says, "We compose when we select." The selection of a suitable motive, and of a beautiful aspect of this motive, is one of the elements of composition for decorative treatment. The selection of a well-proportioned enclosing figure is of importance, as well as the disposition of the motive in the figure. The relation of the open spaces to each other should be studied, as well as the beauty, contrast, and harmony of line, mass, and color, in the motive itself. Decorative treatment is used more for single effects than for repetition.

III. CONSTRUCTION.

Construction deals with the facts of form, and shows the use which is made of the drawing of these facts in the world of industry. Its importance, both educationally and practically, cannot be too strongly emphasized.

Construction as used in the graphic study is the science and art of making drawings which give the facts of objects and from which objects may be

constructed. These are called working-drawings, and are necessary to guide the workman in nearly every branch of manufacture.

The practical value of constructive drawing will be more and more recognized as knowledge grows of the way in which ideas of form, that is to say, constructive designs, are expressed so as to be carried out in manufacture and industry. Every detail of building construction, from the stone foundation and the beams to the finished exterior views of the house, or church, or cathedral, has first to be imagined, and then shown by working-drawings; from these drawings the builders work. Every new invention, from the simplest detail in machinery to a great engine as a whole, must, before it can be made practical, not only be thought out, but also be expressed and be made intelligible through working-drawings. It is through working-drawings that every new object manufactured is made possible, is materialized, so to speak. Designs for all landscape gardening and outdoor improvements—roads, parks, drives, etc.—must be expressed in working-drawings, that they may be carried out by workmen. The great works of civil and mining engineering depend upon working-drawings for their proper completion. There is no walk in life in which a knowledge of the methods of expression underlying working-drawings, and the ability to interpret them, are not of service.

But beyond the practical benefits arising from a knowledge of constructive drawing, there lies the great educational value in the subject of construction well presented. It calls for most accurate observation, most careful consideration of the relation of parts and of form values, of the adaptation of form to purpose, of agreeableness and beauty of form—all in the service of the creative imagination. The principles which govern the expression of thought in the subject of construction are fixed, and take their place among the exact sciences.

Dimensions.—Clear ideas of dimensions are necessary in the subject of Construction. Dimension is extent in any one direction.

Dimension in only one direction, as of a line, is known as length.

When there are two dimensions, as of any surface, the two dimensions are called length and breadth.

When there are three dimensions, as of a solid, the longest dimension is

known as length, the next is known as breadth, and the shortest is known as thickness. Thickness, however, always expresses solidity, and is never used to express the third dimension of a hollow object.

The terms just spoken of are applied to solids and objects without reference to position.

Let a solid now be considered with regard to both dimension and position. It has three dimensions, as before, but the dimensions now have definite direction,—it has one vertical dimension and two horizontal dimensions. The vertical dimension is known as height; and the horizontal dimensions are designated by width: 1, width from left to right; 2, width from back to front.

When the vertical dimension is less than the shorter of the horizontal dimensions, it is sometimes known as thickness. It is better, however, as a general rule, to adhere to the terms height, width from left to right, width from back to front, in speaking of objects in a definite position.

Pupils may be called on to measure the length of certain lines in the room, whether vertical, horizontal, or oblique. Then they may measure faces,—so many inches one way, so many inches the other way. Then they may measure solids—so many inches one way, so many inches another way, so many inches another way; thus gaining the idea of measurements in different directions, and from that the idea of extension or dimension in different directions.

In a similar way the idea of height, of width from left to right, and of width from back to front, as dimensions in different directions, may be developed, and probably the pupils can be led to express these by the proper terms.

Pupils will now be ready to see that in a geometric view but two dimensions are represented, and that in order to represent three dimensions of an object two geometric views are necessary.

Views of Solids.—When a solid is simple and regular, the facts of its form can be shown in two views—the front and top views. These views should be placed in the same relation to each other that they have in the object; that is to say, the top view should be placed above the front view. The top and front views of twelve solids are here illustrated—the top and front views of the sphere, Fig. 1,—the cube, Fig. 2,—the cylinder, Fig. 3,—the hemisphere,

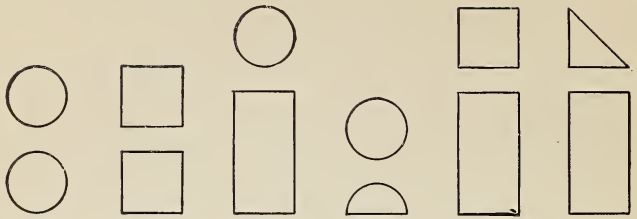


FIG. 1 FIG. 2. FIG. 3. FIG. 4. FIG. 5. FIG. 6.

Fig. 4,—the square prism, Fig. 5,—the right-angled triangular prism, Fig. 6,—the top and front views of the ellipsoid, Fig. 7,—the ovoid, Fig 8,—the equi-

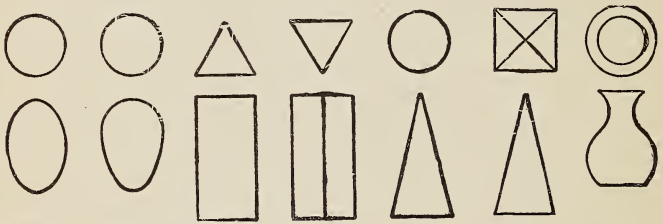
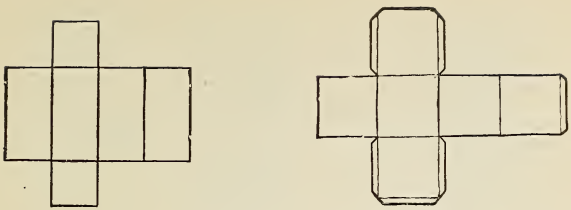


FIG. 7. FIG. 8. FIG. 9. FIG. 10. FIG. 11. FIG. 12. FIG. 13.

lateral triangular prism facing, Fig. 9,—the same with a long edge toward you, Fig. 10,—the cone, Fig. 11,—the pyramid, Fig. 12,—the vase form, Fig. 13, are seen.

Patterns.—A pattern is anything cut or drawn or formed to correspond to an object to be made, and serving as a guide for determining its exact shape or form and its dimensions.



A flat pattern of a solid is made by what is called the development of the surface of the solid. The surface is, as it were, unfolded and spread out flat, thus making a pattern, which, when folded, will show the form of the solid. The development of the surface of the square prism is shown above; also the pattern of a cube with laps for pasting.

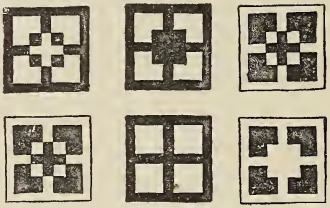
N.B.—Teachers are referred also to directions on the inside covers of the Drawing Books for further instructions in Construction.

Manual Training.—Both educators and practical men are now seeking the introduction of manual training into regular school work. Such training will, however, fall short of the desired result, both educational and practical, unless pursued in connection with regular, systematic, thoughtful work in Form Study and Drawing, as form is the basis of all work in manual training. By means of pattern sheets, definite exercises in regular sequence, and in immediate connection with the Form and Drawing exercises, are provided. Making objects from the patterns also furnishes objects for study, as well as opportunity for care and skill in manual work. The pattern sheets are provided so that accurate models may be made. Where instruments are provided for children, it will be much better for them to lay out and draw their own patterns, instead of using the printed patterns.

Composition.—Composition, in a word, stands for individuality in art. Composition as a feature of art instruction stands for the development of individual creative power in the art activities.

Having the geometric plan determined and having decided on the motive, —whether lines, spaces, plant, landscape, figure, etc.,—the great effort, the art

effort, is to so present that motive that the general effect will be harmonious, that its lines shall contrast agreeably and that its spaces shall bear pleasing relations. To secure this the student, bearing in mind that harmonious *proportion* of the parts to each other and to the whole is secured through the simple laws of **principality, opposition** and **balance,** works out this problem in various ways, striving to show his own conception of beauty. By these efforts and by the study of fine works of art, he learns the need of *breadth, simplicity,* and *repose.* If he is working in decorative composition, he considers *symmetry, rhythm,* and *order.*



Principality requires that one part be more important and the others subordinate, hence contrast of dimension or of value ensues.

Opposition requires that there be variation or contrast in direction or directness of line and in shape.

Balance requires that there be such a mediation or reconciliation of these contrasts that the whole effect will be harmonious.

All nations have shown their ideas of composition in their paintings, their sculpture, their decoration, and their achitecture. To the Greeks we owe that magnificent example of architectural composition, the Parthenon. Their feeling for proportion, for space and form relations has never been surpassed. From the great masters of pictorial art of the fifteenth and sixteenth centuries, as well as to the builders of the Romanesque, Gothic, and Renaissance periods, we receive lessons in composition.

"Flowers or trees, as above, by their great variety of line and proportion, are particularly valuable, as well as convenient, subjects for elementary composition.

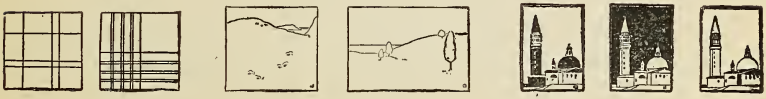
"Not a picture of a flower is sought—that can be left to the botanist—but rather an irregular pattern of lines and spaces, something far beyond the mere drawing of a flower from nature and laying an oblong over it, or *vice versa*.

"The instructor draws a flower in large firm outlines on the blackboard, avoiding confusing detail, and giving the character as simply as possible. The pupil first copies the instructor's drawing, then he decides upon the shape into which to compose this subject—a square or rectangle will be best for the beginner. He makes several trial arrangements roughly, with pencil or charcoal, and chooses the best of these.

"It is essential that the space should be *cut* by the *main lines*; a small spray in the middle of a big oblong, or disconnected groups of flowers, cannot be called compositions; all the lines and areas must be related to one another by connections and placing so as to form a beautiful whole.

"The mere direction or distance of a line by the variation of some fraction of an inch establishes enormous superiority—a little more curve or less, a mere black or white or colored space of a certain proportion."

Space Relations.



Individual creation in space relations through the division of spaces by vertical and horizontal lines and the use of simple landscape features and of decorative units is definitely called for. Examples showing the general nature of this work are given here.

GENERAL DIRECTIONS.

DRAWING.

Freedom of Movement.—The importance of freedom of movement in drawing cannot be overestimated. It produces lightness of touch, quickness in execution, begets confidence in one's ability to draw, and when acquired by a class of pupils materially lessens the work of the teacher. The ability to sketch rapidly and easily cannot be attained without it.

A set of drawing-books, finished as draughtsmen would finish them, rarely indicates the best teaching. It is of far more importance that the child should have opportunity to work first for freedom of movement rather than for straightness of line.

Position.—Sit as far from the work as possible, consistent with a good view of the lines, occasionally holding the work at arm's length in vertical position and in line with the subject you are drawing from, to observe and make corrections. Simply guard against placing both arms on the desk and having face close to the work. It is free-arm drawing, rather than free-hand drawing, which is required. In this way centre attention on correct form, leaving finish to take care of itself. It will come.

Bear in mind always that it is a lesson in seeing and observation that is being given.

Book.—The book should be directly in front of the pupil, pushed back on the desk, the long edges parallel to the front edge of the desk.

Never Turn the Book.—The pupil needs to learn to draw lines with equal facility in all directions, and he has no chance to acquire this self-control if the book is turned to this side and that for his temporary convenience. To protect the page, pupils should use a piece of paper the size of the page, to rest the hand on. While neatness in work should always be insisted on, bold free-hand work should never be sacrificed for immaculate pages in the book.

Pencil.—For all freehand work Dixon's M or S M are recommended. To sharpen the pencil, simply cut away the wood without touching the lead, then

rub the lead gently on sandpaper or file until a blunt point is procured. Short pencils should not be used.

For ordinary work, the pencil should be held lightly three or four inches from the point, so that it will have the support of the middle finger and be held by the thumb and forefinger. as shown in the illustration. Lead the pupils to attain this pencil-holding from a desire to draw freely and well. Pencil-holding should be practised by itself before beginning to draw. Particular attention is requested to the character of the line in drawing. Let it be a broad, soft, gray line, open in texture. These lines can be obtained by having a blunt point on the pencil and by holding it very lightly.

The pencil should always be held at right angles to the line to be drawn when drawing straight lines, and at an angle of about 30° to the paper.

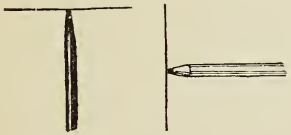
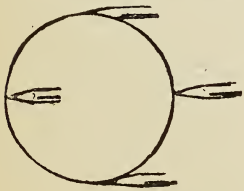


FIG. 1. FIG. 2. FIG. 3. FIG. 4.

Drawing.—Vertical lines should be drawn from top to bottom; horizontal lines from left to right; oblique lines, as a rule, from top to bottom.

Lines at the left and top should be drawn first, as a rule, though all parallel lines should be drawn in succession when practicable.



Circles and vertical ellipses should be drawn from the lower end of the imaginary vertical diameter, holding the pencil from left to right all the time. In drawing horizontal ellipses the pencil should be held as for a horizontal line. Circles ellipses, and ovals should be sketched with one sweep of the pencil.

All curved lines, no matter how short, should be practised over the printed copy before drawing.

Erasers.—They should not be used at all until the fourth year grade. If the right impression of how to draw is made on the minds of the pupils, the eraser will be rightly used. Generally speaking, it is needed only in the finishing stage of a drawing.

The pupils should be led to see that frequent erasing injures the surface of the paper and the eraser is disastrous when applied to shade or shadow; therefore it is better to draw at first with very light lines, correcting these if necessary by drawing other light lines over them. When a satisfactory outline (or blocking of the whole) is secured, then the pupil may proceed to carry out the effect desired, any obtrusively incorrect lines being first taken out with an eraser.

Drill Exercises.—When counting for movement for straight lines and drawing combined, count very slowly as follows: One, back; two, back; three, ready; draw. The movement can be made as many times as seems desirable,—generally not less than three nor more than five times before drawing,—but the word for the last movement should be *ready*, that pupils may be prepared to draw. Beginning again at the first point, lines an inch apart, and ending an inch from the right edge of the paper, may be drawn across the paper at the count of the teacher, movement being practised first. Beginning at the first point again, a line may be drawn in a similar way to the lower left corner; and beginning at the upper right corner, a line may be drawn to the lower left corner. If it seems necessary, another sheet may be taken; pupils having placed the first point, may place light points an inch apart at the right of and also below the first point, and repeat the exercise on each side of the sheet.

Pencil-holding.—Before beginning work on the paper, give practice in pencil-holding. Let a monitor for each row place a pencil in the groove of each desk in the row, taking care to have each pencil point toward the left. Then give exercises as follows in taking up the pencil and in holding it properly.

Hold up the left hand; take your pencil near the point with the thumb and first two fingers of the left hand; place the pencil between the thumb and first two fingers of the right hand, letting these grasp the pencil lightly near the middle. Thus the pencil will be quickly placed in the hand, and long pencil-holding will be insured. It will be well to have pupils lay down and

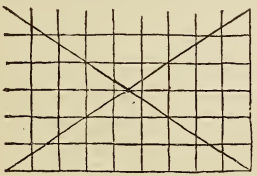
take up their pencils together three or four times, so that the manner of doing it may be well understood.

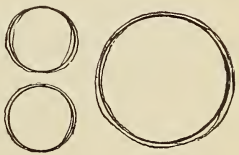
Movement.—Free work both in movement and in drawing is of the greatest importance; for drawing, to be valuable, must be free and ready. Give practice in movement with the pencil from back to front on the desk, and see that *each pupil* holds the pencil at an angle of about 30° to the desk, and pointing directly to the left (see Fig. 2, page 27); the same for movement from left to right, the pencil at an angle of about 30°, and pointing toward the back of the desk (see Fig. 1, page 27); and from corner to corner (see Figs. 3 and 4, page 27). To keep the children together for movement, count as follows: One, back; two, back; three, back. Endeavor to make the whole movement continuous, unbroken; therefore count in even slow time.

No. I.

Object: Free-arm movement and drawing round and round.

Free Movement.—Give directions for holding the pencil for movement round and round, with the pencil pointing toward the left as if for drawing a vertical line, and for practising the movement on the desk. The pencil must be held the same throughout the movement. Count, One, two, three, four, etc., counting but *one* for each circular movement. For the last complete movement before drawing, say *ready*. The counting will then be, One, two, three, ready, draw. *No erasing.*

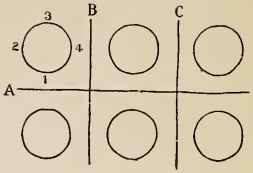




No. II.

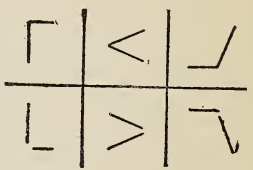
Practice.—Draw with free-arm movement lines from B and C down the page and a line from A across the page, dividing it into six parts.

In the upper left-hand space, beginning at 1, and moving in the direction 1, 2, 3, 4, 1, 2, etc. practise the movement for a circle (see page 27), as large as the space will allow, then draw a circle with one sweep ; repeat in the other spaces. Pay special attention to pencil-holding, always pointing the pencil toward the left, and draw with free movement from the shoulder. *No erasing.*



No. III.

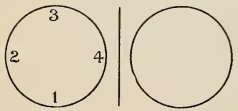
The exercise of spacing is repeated here to afford practice again in long lines for the purpose of getting free movement. Try to lead pupils to *think* their lines while moving and drawing, and to strive for quality of line as well as for direction. The drawing practice in this exercise will be as valuable to the teacher as to the pupils.



Draw two right angles, two acute angles, and two obtuse angles. Draw the upper row of angles so that the lines make corners. Draw the lower row of angles so that the lines do not make corners. In placing the angles, consider the appearance of the whole page when completed. Practise movement for the direction of each line before drawing, and make the lines about two inches long. See page 27, middle cut. *No erasing.*

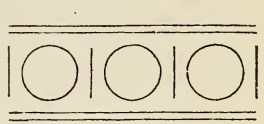
No. IV.

Bisect the upper edge ; an inch and a quarter below the point of bisection make a short vertical mark. From this vertical draw, at the count of the teacher, a vertical down the page, stopping an inch from the lower edge, first practising movement. In the left-hand space, beginning at 1, and moving in the direction 1, 2, 3, 4, 1, 2, etc., practise the movement for a circle as large as the space will allow, then draw a circle with one sweep (see page 27). Repeat in the other space. Pay special attention to pencil-holding. *No erasing.*



No. V.

Practice.—Quadrisect the left edge of the page. From the upper and lower points draw horizontals across the page at the count of the teacher and with free movement. Trisect the upper horizontal. Beginning half an inch below the left end of the horizontal, draw a vertical downward, stopping half an inch above the lower horizontal. Repeat below the points of trisection and the right end of the line. In each space draw a circle having a diameter as long as the vertical line. Draw marginal lines above and below the horizontals, a little less than half an inch from them.



COLOR AND BRUSH WORK.

There is a growing sense that color should be made a fundamental subject of study throughout school life; first, as making the child acquainted with the world in which he lives; second, as a direct promoter of mental action; third, in its practical application.

The use of color in the study of form will be found of great value. Color exercises are therefore suggested.

Spectrum Colors.*—A beam of light passing through a glass prism is refracted and decomposed, and when projected on a white screen is seen as a beautiful band of rainbow colors. This band is called the *solar spectrum.* The colors are so beautifully blended that it is hardly possible to determine where one ends and another begins. But the principal colors in the spectrum were originally spoken of as seven,—red, orange, yellow, green, blue, indigo, and violet.

Scientists are not agreed as to the primary colors in the spectrum; that is to say, as to the colors by the combinations of which the other colors of the spectrum are produced. Red, green and violet, and also red, green and blue are mentioned most prominently as the three primary color sensations. In view of this disagreement, it seems better to drop the terms primary,

* See Colour, an elementary Manual for Students. By A. H. Church. Published by Cassell & Co. Pages 68, 75.

secondary and tertiary (except possibly in the case of pigments), and to speak of the six leading colors as red, orange, yellow, green, blue, violet, which with their intermediate colors, red orange, yellow orange, yellow green, blue green, blue violet, make up the principal spectrum colors. Red violet is added to complete the color circle. The six leading colors have been adopted by common consent* as expressing the divided differences of hue in the spectrum, the indigo of Newton having been dropped. Froebel gave six colored balls, and Schiller's famous color riddle begins:

"Six sisters, from a wondrous pair
We take our common birth."

Color Study.—Color lessons should not be given at random. They should have an orderly succession and should have a twofold purpose: 1. The development of the color sense; 2. The development of the power of expressing with brushes and paint, or other color material, the color-impressions made upon the brain.

In all schemes for color lessons the color-sense should be made the starting-point. Care should be taken that a color-impression or sensation should *always* precede the *name* of the color. To this end, exercises in matching colors of objects should be given before color-names are given.

The Names of Colors.—The colored objects, whether colored cards, paper, worsted, or any other material, from which ideas of hues, and hence colors names, as yellow, red, blue, orange, green, violet, purple, citrine, russet, olive, are learned, should be those which are known as standard colors, whether in normal tones, tints or shades. The colors should be harmonious in relation to each other, and also the normal tints, and shades of any color should make a harmonious scale, without change of hue. Great care should be taken, therefore, in selecting material for these lessons.†

Hue, Tone, Tint, Shade, Scale.—Hue is the characteristic of a color that distinguishes it from any other color, as blue, red, etc.

A **tone** is any state of a color as it passes from light to dark. Tones include tints, shades, and the normal tone.

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* See Rood, von Bezold, Church.

† The Prang Colored Papers have been prepared with special reference to use in developing the color sense.

A **normal tone** is that tone of a color that is considered typical of that hue; that tone of a color which most closely resembles its prototype in the solar spectrum.

A **tint** is a tone of a color lighter than the normal tone of that color.

A **shade** is a tone of a color darker than the normal tone of that color.

A **scale** of color is the regular transition from one color through succeeding modifications of it. The transition may be from tone to tone or from hue to hue.

A **dulled scale** is made by mixing gray with all the tones of the scale. Russet, citrine, olive, browns and grays are called dulled or broken colors.

Order of Study.—Color-training should be based on the color-perceptions of children, and should proceed from the known or recognized to the unknown. Exercises should be given in choice of colors, in perception of relation of colors, in laying the spectrum chart, and in the use of colors.*

For this purpose color-charts, color-tablets and colored papers will be needed.† Twelve colors—*red, red orange, orange, yellow orange, yellow, yellow green, green, blue green, blue, blue violet, violet, red violet*—are sufficient for elementary work.

As the relative amount of space occupied by each color in the spectrum is still a subject of discussion among students of color, a conventional spectrum, giving equal spaces to the colors mentioned, has been agreed upon. The first laying of the spectrum from the chart by pupils should be its reproduction with color-tablets, as these can be easily moved to obtain the right arrangement. Pupils may then reproduce the chart in colored paper by cutting oblongs two inches by three quarters of an inch, and pasting them side by side in the true spectrum order. Color names are unnecessary in the laying of the spectrum.

The six leading colors should then be studied individually. The order in which these are taken should depend on the color-perception of the pupils.

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* See the Prang Primary Course in Art Instruction.

† The Prang Spectrum Chart, No. 1, color-tablets and colored papers, can be obtained of booksellers and of The Prang Educational Company. These color materials have been prepared with great accuracy for this special purpose. Papers of inferior colors or of colors not prepared with relation to each other should not be used.

The method should be educational—color-perception first, then color-name, then color-expression. The expression of color may be by colored paper or by the brush. Colored papers can be used to great advantage in elementary work in the cutting out of representations of manufactured objects; its use in representation of natural objects is not recommended. Its use in Decoration is well known.

Practical Points in School Work.—Color Combinations.—The subject of Decoration calls especially for a knowledge of harmony of color, and there is frequently much work done outside of the books by the use of colored paper. The study of Decoration begins in the primary schools with the attempt to make pleasing arrangements with solids, tablets, and colored paper. As soon as the element of color enters, training in the harmony of color should begin.

At first call for arrangements in the *normal* tones of the spectrum colors, only *one* color to be used in any one arrangement; then for arrangements in tints, only *one* tint to be used in any one arrangement; then for arrangements in shades, only *one* shade to be used in any one arrangement.

Later, when combinations are made, let them be—

1. { Of two tints of the same color.
   { Of two shades " " "
   { Of two tones " " "
2. Of three tones of the same color.

Do not call for combinations of any of the leading colors.

If an object is represented by colored papers, do not allow any combination of two colors that would not be pleasing and suitable in the object.

If these rules are followed, the children will receive an unconscious training in the harmony of scale.

These combinations will furnish sufficient variety in color for a considerable school period. The use of colored papers in decoration should always be connected with beauty of form and arrangement. The cutting of historic figures is especially recommended. The modification of units and their use in arrangements can be especially well carried out by cutting. The rosettes from flower forms furnish beautiful units for use singly or in borders and surface coverings.

The combination, in a harmonious way, of colors that are separated in the spectrum will be a further development of harmony. It should be accompanied by a study of the effect of juxtaposition of colors, of analogy and contrast of colors, of warm and cool colors, of advancing and receding colors, and of color values. These should be left for more advanced study.

Color Values.—The various colors have not equal value; that is to say, two colors may be used in equal amounts, but the impression made by one will be stronger than that made by the other. The value of yellow is greater than that of red, and the value of red is greater than that of blue. The values of yellow, red and blue have been estimated as in about the proportion of 3, 5 and 8. In any composition containing the three colors, they should be used in about these proportions. There should always be the least of yellow, more of the red, the most of blue, to produce the most pleasing harmony of color. Observations of the values of the different colors can be made from the spectrum chart.

Colors Needed.—In choosing colored papers for use in the schoolroom, be careful first to get *standard* colors of the normal tones of the six leading spectrum colors; if you can, add to these tints and shades of the various colors, so that scales of colors can be made. The intermediate spectrum colors and broken colors, such as russet, citrine, olive, with their tints and shades, also browns and grays, with their tints and shades, may be added. Paper foldings in brown or gray are especially pleasing.

Paints.—While the children are receiving color-sensations, and learning color-names by the study of color charts, tablets, paper, and other colored objects, they can also begin to produce color-effects by the use of paints.

Beginning with yellow and red, they can learn, by mixing colors, the results produced. In pigments, yellow, red and blue are called the *primary* colors.

Yellow and Red,	mixed,	make	Orange.
Yellow and Blue,	"	"	Green.
Red and Blue,	"	"	Violet.

Orange, green and violet are called secondary pigment colors, because they can be made by mixing the three primaries.

Secondaries.

ORANGE and GREEN } make CITRINE, the yellow tertiary; it contains red, blue, and a double portion of yellow.

ORANGE and VIOLET } make RUSSET, the red tertiary; it contains yellow, blue, and a double portion of red.

VIOLET and GREEN } make OLIVE, the blue tertiary; it contains yellow, red, and a double portion of blue.

There is an infinite variety of colors compounded from those mentioned, of which some are named and some unnamed. These must be left for more advanced study.

The three primaries mixed in varying quantities produce russet, citrine, olive, and browns and grays.

In mixing colors which require red, use carmine or lake; vermilion is not a good mixing color.

The Use of Water-Colors.—With a brush full of clean water obtain the full strength of color from the cake, and then transfer it to the spaces in the cover of the box as to a palette. Add color or water as strength or delicacy of tint is required.

Rarely mix more than three colors; and do the mixing upon the palette, and not upon the cakes. This is the best practice at first, though after obtaining a good knowledge of color, and skill in handling, it is sometimes better to work directly from the cake, mixing in the brush.

MATERIALS AND METHODS FOR BRUSH WORK.

Ink.—For work in black and white, common writing ink answers very well, though, of course, india ink has more body and brilliancy.

India ink is prepared in the most convenient form for use in bottles, and Higgins' Waterproof Liquid Ink (white label) is recommended.

India ink of excellent quality can also be obtained in sticks directly from Japanese dealers at about fifteen cents a stick, from two to three inches in length. When in this form it should be prepared for use by each child

by rubbing an end with a little water in a small dish (individual butter-plate) adding more water drop by drop until there is enough for the lesson. The proper consistency can soon be estimated by trial and also the amount needed for the lesson. The ink is easily thinned by adding water and mixing it in the dish. The stick ink might be preferred in the upper grades, as it gives a better effect than common writing ink. When the stick ink is used it should be carefully dried and wrapped in paper after using, to prevent crumbling or cracking.

Brushes.—The quality or size of the brushes is not so important as the method of using them. The brush may be a flat bristle (for flat wash), or a Japanese pointed brush (such as is used by Chinese laundrymen), or a camel's hair or sable brush of medium size. If a Japanese brush is used, it will be found that the bristles are partly held together near the base by a sort of glue. Care should be taken not to remove this glue when ink or color is washed out, as its presence helps to give greater flexibility to the brush. Brushes may be kept singly in the paint-box or together, using a box longer than the brush so that the points may not be injured. Brushes should never be kept in water or put in the mouth. The paint-box and brushes should be put away clean. When put away for the summer it is well to add a piece of camphor.

Water-Colors.—Water-color paints are furnished to the schools in various forms. There are liquid paints in bottles, moist water-color paints in tubes, and paint-boxes with cakes of paint. Perhaps the most practical for general use in the primary school is a paint-box with three colors of excellent quality.*

The scientific knowledge of color is of little or no value as a training of the color sense or æsthetic perception; but by mixing or combining (by juxtaposition) the three primary colors, red, yellow, and blue, the children may obtain much practical knowledge of pigments, their possibilities, and their limitations.

The paraphernalia for such work should be as simple as possible, so as to reduce the time required in handling it, and also the expense. One lesson a

* The Prang Water-Color Box No. 1 is recommended. This box contains three cakes of fine quality and extra size—one each of carmine, ultramarine, and mineral yellow. The colors work easily and smoothly and mix readily into secondaries, tertiaries, and intermediates and broken colors. They are put up in attractive boxes with hinged covers. Two quill brushes of good quality and generous size, with wooden handles, are included in each box. The inside of the box cover is finished for use as a palette with three divisions.

week of two periods is better than the shorter lessons. Large heavy cups or small bowls may be used for water—distributed by monitors and filled by the teacher from a long-nosed vessel, such as a coffee-pot or pitcher. With care, one supply of water will be sufficient for a lesson. The paper may be white or slightly tinted. An American drawing paper answers every purpose; the manilla practice paper is good.

For all line work in ink or water-color the brush should be held as nearly vertical as possible, with the fingers slightly resting upon the paper and the whole arm moved instead of merely the fingers. Broad washes are obtained by charging the brush with considerable water and color and working with the side and not the point of the brush. To obtain control and power of expression, it is well to encourage even young children to use the brush in both ways.

How to Use the Brush.—For practice with the point of the brush it is well for children to reproduce borders which have been previously laid with sticks, or perhaps drawn, as this will not only keep a direct connection with other work, but will give excellent practice in handling. The constant and laborious drill which Japanese children are obliged to go through in order to learn to write their peculiar characters with ease and freedom and correctness is undoubtedly a great means in developing their mastery of the pencil and brush in their characteristic art. The Japanese do not rest the hand even on the fingers, but move the whole arm, holding the pencil and brush vertical.

If children can draw with the brush without first sketching the leading lines with pencil it will not be well to repress such effort. Young children are less self-conscious than older ones, and if technical results are not expected beyond their power to produce, they will show great courage and often surprising ability. They should, however, think carefully before making a line and perhaps practise the movement just over the paper, before making the stroke. A tactful teacher will see ways to gently guide or restrain, but it should be borne in mind that it is especially desirable in all this work that the children should have as much freedom as possible. It is not direct results that we should expect, but the development of power.

How to Use Water-Color.—Washes may be laid perfectly flat by working with the brush full of wet color, beginning at the top of the figure and carrying the color across the enclosing space from left to right, inclining

the paper slightly and dragging the color down as it pools. The excess of color at the lower edge may be lifted with the brush if the brush is nearly dry.

If the first wash does not produce a tone of sufficient depth, another or several others may be added, taking care that one wash is thoroughly dry before applying another.

For practice in laying flat washes the children are much interested in filling squares, oblongs, circles, triangles, quatrefoils, trefoils, etc. These decorative motives may be painted and the enclosed spaces filled by the children; they may be drawn by the teacher (by drawing one sheet carefully and pricking through many sheets to secure proper dimensions and connecting points by lines or curves) or the children may color their own drawings.* The hektograph is also a great aid to teachers.

A graded wash from the full tone to a pale tint may be laid by starting with a brush full of color (very wet) and carrying the tone as far down as the full depth of the color is desired, then by adding water and no more color every time the brush starts from the left to the right, the full tone will change, giving a graded effect ending in a pale tint. Long vertical oblongs are excellent for this exercise.

Blotted washes are made by alternating the full depth of a color with a tint of the same color added at irregular intervals. Sometimes different colors are used, as Prussian or ultramarine blue and touches of emerald green or raw sienna, thus producing stained-glass effects. This work is delightful for color composition. Simple sky effects may be obtained by the use of a blue wash, lifting the color in places by means of the brush to simulate clouds.

Practice in laying washes is very essential as a preliminary to the study and rendering of examples of historic ornament and original design.

Color for the washes may be prepared or mixed in the depressions for that purpose on the inner surface of the lid of the paint-box. If moist color in tubes is used special pans are necessary for mixing.

The effect of the juxtaposition of colors may be practically demonstrated by surrounding squares or circles of the same color with different colors, as, for

* The Prang Outlines for Color Work. These consist of 28 different decorative examples, lightly printed on heavy white paper, suitable for water-color washes. The sheets are 6x6, one figure only on each sheet. Blank sheets of the same size can also be supplied for optional exercises.

example, surrounding a red square with yellow, another red square with orange, and so on with blue, green, and violet. The children will thus see for themselves the change in effect. (These same experiments may be carried out with colored paper, the children cutting the decorative shapes and thereby gaining much in manual dexterity.)

Compositions of flowers or sprays of leaves, budding twigs, or seed vessels, within an enclosing space, as a circle, square, or oblong, may be painted in early work in monochrome, as, for example, in quite a full tone of blue, the blue being modified in later stages with enough of red and yellow to neutralize it.

Landscape composition may be well carried out in several values in ink or water-color, keeping the washes very flat. This flat treatment is perfectly satisfactory to the child, and by dealing in clear washes handled directly muddy combinations are avoided.

When more pictorial treatment is attempted, the same direct treatment should be encouraged and the children led to see the value of using as pure color as possible. The best artists, at present, use very few, if any, brown, gray, or any so-called neutral pigments, but depend for such effects upon the juxtaposition of pure colors or upon the mixing of red, yellow, and blue with a dash here and there of pure color. A clear sunset sky may be vivid with yellow and red, while against it the trees are very dark green and in some places very deep blue. The artist will mix the colors very little, but while working rapidly will lift the wet color in one place nearly off the paper and add depth of color in another, suggesting grays, violets, and neutral tones by the juxtaposition of colors which produce their effect. This preserves the richness of the colors and the depth and brilliancy.

It is not meant by this that "out-door effects" should be sought as shown in the works of Manet, Monet, and others where pure colors are juxtaposed in small masses, the pictures to be viewed at a distance. It is meant, however, that the clearer and purer the pigments are used the more brilliant is the result and in decorative or pictorial work gray (and various broken colors) can be produced not only by the juxtaposition of colors, but also by working as directly as possible from the paints, keeping the brush full of color and water and letting the color blend in the brush or on the paper rather than doing much of the mixing on the pan. The effects produced in modern stained glass are good illustrations of such a use of color.

The mixing of colors and the use of flat washes, both so necessary for decorative effects, will lead the children to see the result of various combinations of color.

When expressing in a pictorial and not a decorative way, the work should be as individual as possible, that is, the children should express as they individually see. It would be a mistake for the teacher to give directions or definite advice as to what colors to combine or juxtapose to give the exact tint or tone of a flower, leaf, or stem, as different children may see or feel the color differently. One child sees green in the shadows or a glow in the reflected light, and should express what he sees as well as he can. One child sees red in the stem and he puts it there ; another sees the same part as brown, into his red he touches a bit of blue and perhaps of yellow. In such work children should be encouraged to work as much as possible directly from the paint, avoiding much mixing and yet keep the color very wet.

If the teacher can possibly do it, it would be well to study into the methods of treating water-color when used decoratively and pictorially, practising in both methods. It will be a fascinating study, and the teacher will be well repaid in knowing better how to help the children.

Development of Imagination.—The value of the imagination in all conditions of life is too often forgotten. The teacher should have in mind constantly the development of the imagination. In studying a model, thought should be led from the model to its mental image, from that to its likeness in common objects, thence on to the possible action and uses of the model. Then in expressing the thought about the model by drawing, the imagination will again come in play and inspire not only the simple drawing of the model, but also the consideration of its various actions and modifications. Such imaginative work should be encouraged, but it should also be controlled.

Division of Time.—Not less than one hour and forty minutes should be devoted each week to drawing in the first six years of school. In the younger classes divide the time into five twenty-minute lessons, and in the fourth, fifth, and sixth years into two half-hour and one forty-minute lesson period. More work will be accomplished in one long lesson than in two short ones, even if time expended in distributing materials is not considered.

To teach successfully this subject the teacher must do some work before the class, either on blackboard or paper, or both. The pupils should feel that you are also learning and loving this study as well as themselves. Show them your work. If theirs is better, what matters it? Meeting them half-way, as it were, will be very helpful in securing good results, and in arousing enthusiasm.

Have well in mind what should be accomplished during the school year. Take all the time necessary to present well the subject in hand. The work on the blank paper is to be more than practice; make the children feel that every drawing is a final one.

Three minutes are all that should be allowed for arranging desks and collecting of materials. Less time will be needed as the work grows.

Practice Paper.—It is desirable that pupils should have some practice in free movement in addition to the work in the drawing-book. Quick sketches by the pupils fix in the mind the purpose of an exercise where, as in the pose or animal study, the lines of action may be studied from life preliminary to work in the drawing-book. For such purposes sheets of manilla paper, six by nine inches, are desirable. The sheets may be used on both sides for drawing. Provision should be made for twenty-five to thirty sheets for each pupil for use with one drawing-book. The teacher should guard against too much practice preliminary to exercises in the drawing-book lest the children lose interest and the spontaneity of their effort suffer.

Packages of this paper (called manilla drawing) can be obtained at all leading book stores.

In making corrections, a very good method is to walk about the class taking mental notes, then go to the blackboard and show up errors, allowing the children to make their own corrections. And in the matter of correction in object drawing, point out facts upon the object itself.

In drawing from any object whatever, it is most important that the attention be concentrated principally upon the object, looking down as rarely as possible to the pencil point.

BOOK I.—Fourth Year.

Representation, Appearance of Form, Picture Drawings.

- NATURE—*Grasses, Vegetables, Fruits, from the Pose, from Animals, from Plants.*
- OBJECTS—*Balls, Boxes, Baskets, Tumblers, Other familiar objects.*
- TYPE SOLIDS—*Sphere, Cube, Hemisphere, Cylinder, Square Prism.*
- COMPOSITION—*Space Relations in Landscape, Story-telling.*

Decoration, Ornamentation of Form, Original Design.

Historic Ornament, Decorative Design, Space Relations, Plaids.

Construction, Facts of Form, Working Drawings.

PATTERNS—*Cube, Square Prism, Constructive Design, Boxes.*

The printed pattern-sheets furnished with the book may be used at the teacher's discretion whenever they will be most helpful to the work in hand.

The purpose of the exercises to be given in these books is to lead the children to the production of beauty through selection, composition, and rendering.

Page 1. REPRESENTATION.—The Study and Drawing of Grasses.

"Creeping under children's feet,
Nodding at the violets sweet—
We are small, but think a minute
Of a world with no grass in it."

Added Interest.—The inspiration of literature, especially of poetry in connection with drawing, is universally felt. Literature abounds in beautiful allusions to grass. Children may be early led to appreciate the beautiful. Ask the children to find verses or expressions of beautiful thoughts about grass or grain, also to find pictures with grasses or grains, and bring them to school. Let these be mounted and form an exhibit, to which the teacher might add her collection.

Other Studies.—Let the work be connected with the Science Work, with the Reading and with the Language Lessons.

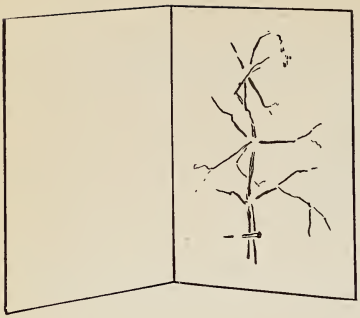
Bear in mind that the drawing may be very crude and yet show much art feeling. The result on the papers is only a small part of the work.

Mainly the pupil is to be led to observe, to see; to appreciate beauty; to form habits of selecting the best, and only, lastly, to try to tell on paper what he has seen and felt. "To be is greater than to do."

Selection.—The fields and roadsides at any time afford abundant supply of material. Ask the children to gather grasses and grains. The specimens will generally need trimming. Lead the children to see what could be selected and what omitted. Make very clear that what is selected must be truthfully drawn.

Preparation.—The specimens may be placed in bottles, or between the leaves of a closed book.

Another helpful way is to fold in half a piece of paper to form a shadow box, and pin the specimen to the paper.



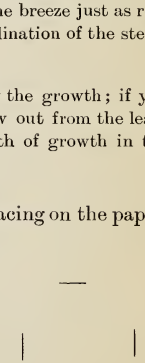
In this way the spray will be held in place, even if it should fall down, or if needed for another lesson. The placing the specimen so as to give a pleasing aspect from which to draw it, is important as the first step.

Suggestions for Pupils.— Look at some of the grass or grain several desks away from you. Be careful to choose a cluster that is pleasing to look at, — that will make a good picture. Look at the stems ; notice the tallest one. In which direction does it incline ? Is there another stem to balance it? Half close the eyes and look at the grasses you are studying ; try to keep this picture in your mind while you are drawing. We want the grasses on the paper to look light and flexible, as if they could nod and sway in the breeze just as real grasses do. Make a quick sketch on practice paper, showing the inclination of the stems and their general arrangement by a few light lines.

Compare your sketch with the cluster you are drawing. Study the growth ; if you have a stalk of wheat or other grain, see how the stem seems to grow out from the leaf ; how the base of the leaf clasps the stem. We want to show the truth of growth in the drawing.

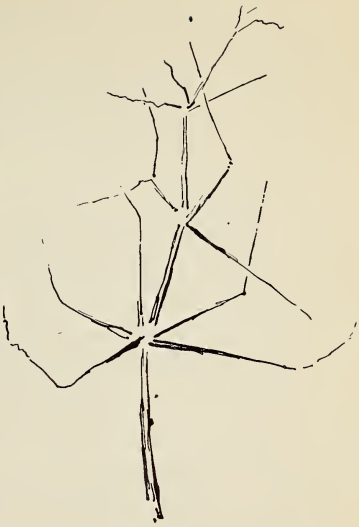
The Book.— First choose size of the drawing and its placing on the paper. Indicate this with four very light strokes.

Next, the line of direction. A good way to get the feeling of the direction of the stem, is to lead the children to trace or draw it in the air. The main stem must then be sketched, not in one line, but in several lines, varying in length and direction. Locate the branches, and with straight light lines indicate their directions.



Try here to lead the children to see the spaces between the branches rather than centre their attention on the branches themselves. Sketch the shapes formed by main stem and branches rather than the branch itself.

Next, the main stem being thicker, may need a double line to indicate the size of the lower part. Finer branches may be indicated by one line varying in thickness, the top very light, so as to suggest swaying easily in a light breeze.



"The bird to the tossing clover,
The bee to the swaying bud,
Keep singing the sweet song over."

The foregoing is what Book I. must accomplish on page 1. To satisfy the children, however, they must be allowed to go a little farther, but let each stroke be the result of observation. Draw particular attention to where the blades leave the stem and to the part of the stem that holds the grain or seed. Try to have the work true to the laws of growth —the growth of both plant and pupil. We have all long ago outgrown the temptation to clean and work up the child's effort.

The illustrations on the drawing-book page are given as examples of rendering. It will help the children to give a better rendering of their own grasses, if they are allowed to look at these examples while making their second trials. Lead the children to see how loosely the pencil must have been held to obtain so transparent a line. This method of rendering is called "pencil-painting." For pencil-painting, which in this case is intended for only narrow leaves and small masses, the pencil may be held under the fingers, as shown in the illustration.

LEAVES.

"The dead leaves, their rich mosaics
Of olive and gold and brown,
Have lain on the rain-wet pavements
Through all the embowered town."

S. Longfellow.

"How fast she drops the blazing leaves in mirth,
Hark! how she laughs to see them heap the earth,
To see the happy children gather them,
As though each color were a precious gem."

"Bright yellow, red and orange,
The leaves come down in hosts."

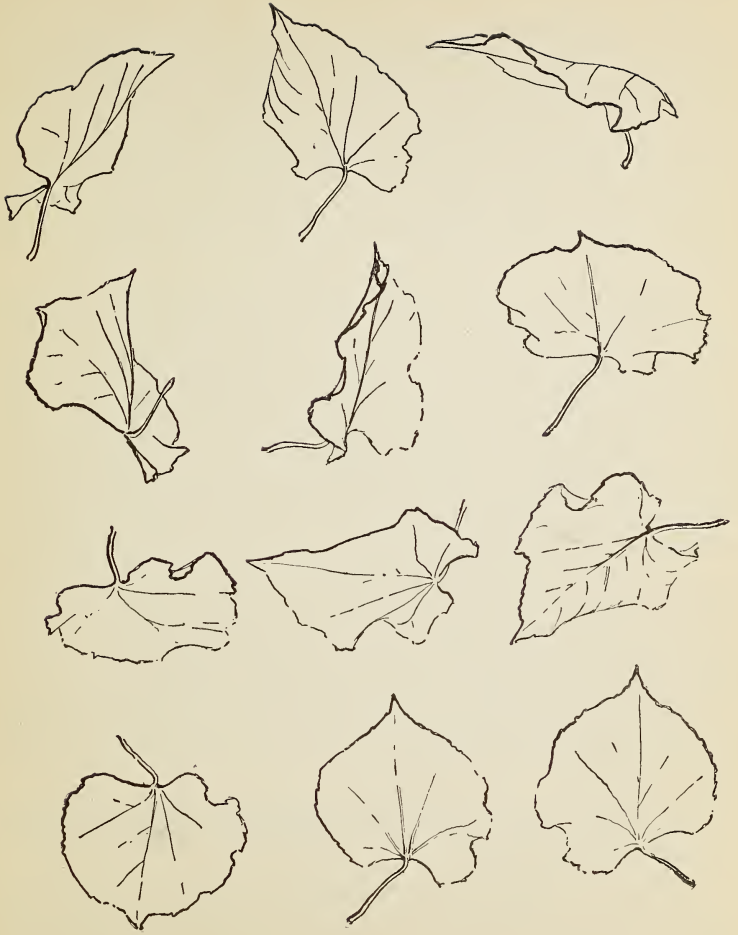
N.B.—To be written on Blackboard by the Teacher.

EXERCISE I. A.—Leaf, from Nature.

A Leaf.—Here we are brought to the study of Nature again. A leaf is beautiful in itself, but a spray of leaves is still more beautiful, and the leaves on a tree have still another beauty. Try to have this exercise lead to more than the study of the leaf itself. Lead the pupils to speak of the trees,—the sturdiness of the trunk, the easy bending and swaying of the branches, the lightness of the leaves.

The leaves brought by pupils for this exercise should be not less than three inches from apex to base, simple in form, and not deeply divided. It would be well for each pupil to bring two or three leaves of a kind, so as to study the characteristics of a leaf in more than one example.

A leaf, perfectly developed, has three parts,—the **blade,** which is broad and thin; the **petiole,** or leaf-stalk; and the **stipules,** leaf-like parts, often found at the base of the stalk. The point of the leaf, or the part opposite the stalk, is the apex. The end of the leaf next the leaf-stalk is called the base.



When the margin of a leaf is toothed, the little teeth are quite close together. In making the picture of a leaf the teeth are only indicated now and then; but although the teeth should be only suggested in a drawing, great care should be taken to retain the characteristic shape and direction of the teeth,—whether curved or pointed, whether pointing upward, outward, or downward. If the teeth were all represented in the picture, the attention would be drawn from the beauty of the general shape and of the strong curvature, and would be fixed on the details of the margin. So also if all the veins were carefully drawn, the effect of the leaf as a beautiful figure would be lost.

Appearance of the Leaf.—Hold the leaf facing you, with the midrib vertical; you have a front view of the leaf, and you see its whole width. Hold it with the edge toward you; you have an edge view, and you see none of the face of the leaf. Hold it still vertical, but turn it half-way toward you; the face appears to you but half its real width. Try the same changes with the midrib oblique, and also with it horizontal from left to right, and also with the midrib horizontal from front to back. Turn the leaf half-way, and also less than half-way and more than half-way. Study any picture of leaves and you will see how rarely a front view of a leaf is given. Notice the illustration at the end of this exercise.

You now begin to know some of the different aspects of a leaf. If leaves always turned their faces exactly toward us, and always had their midribs in one direction, how stiff and unpleasant a tree or a plant would be! But they turn in every direction; and so we have a thousand different aspects, with the added beauty of all the changes produced by sunlight and shadow.

The several stages of drawing a leaf are given here: Fig. 1, shape blocked-in; Fig. 2, the veins added in straight lines; Fig. 3, the curves drawn; Fig. 4, the leaf completed.

To be developed.—Views; appearance; parts of leaf; stem, blade, base, apex, veins; shape, curvature; blocking-in; beauty; drawing a leaf; character of line.

Suggestions for Study of Pupils.—Put your leaf on the desk and look down upon it; what view have you? Hold your leaf facing you; what view have you? How wide is it? Keep the leaf still vertical, but turn it so that you can see only an edge;

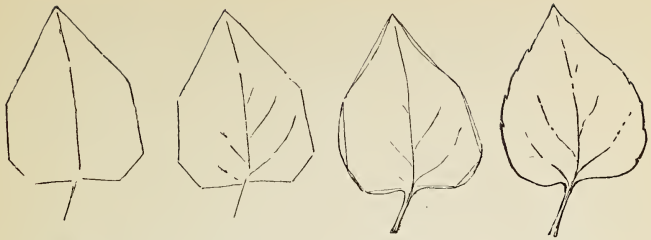


FIG. 1. FIG. 2. FIG. 3. FIG. 4.

how wide does it look now? Keep the leaf still vertical, but turn it so that you can see only an edge; how wide does it look? Keep the leaf still vertical and turn it half-way toward you; how wide does it appear to be now? Hold it facing you with the leaf-stalk toward the left; observe and turn in the same way. Hold the leaf vertical and facing you again; turn the leaf right back; what can you see? Then turn it half-way up; how does it appear? Can you think which way the leaves grow on the trees?

Find the best leaf that you have, and lay it on the desk. Beginning at the apex of the leaf, with the forefinger of each hand trace around the margin of the leaf and down the stalk in sweeping curves. Trace the margin again, but this time trace with long straight lines, not more than four on a side, fewer if possible. Trace the midrib in straight lines. Trace the principal veins in straight lines.

DRAWING THE OUTLINE OF A LEAF.

Observation by Pupils.—Is the margin of your leaf unbroken—that is, **entire**—or is it notched or toothed? Which way do the teeth point—toward the apex, toward the base, or outward? Did you ever see the teeth of a saw? How did they look? (*They looked as though they would cut.*) How do the teeth of the leaf look? (*They look soft.*) What can you do so that the edge of the leaf in your drawing will not look as though it had the teeth of a saw.

Drawing.—Block-in the leaf on the right part of the page, that is, draw it in straight lines, first the left side, then the right side, adding the leaf-stalk and a very few of the principal veins, not more than three on a side, in straight lines. Draw the curves over the blocking-in lines. Erase the blocking-in, and finish in soft lines, indicating a tooth now and then and varying the width of the line.

The truth of the general shape of the leaf and the direction of the midrib can be better procured if the placing of all veins is left for future work.

Page 2. REPRESENTATION.—Familiar Objects: Ball, Basket; Form, Appearance.

Lead the children to make sketches of balls, baskets, or other spheric or cylindric objects and their placing, to select one object, to choose a pleasing aspect and to draw it in the drawing-book, studying the examples.

Value of Familiar Associations.—The child is now appealed to through associations. In our endeavor to interest the child by presenting new objects we sometimes forget that children often like best that which they know best. Witness the attachment to old toys that children so frequently manifest. Familiar playthings are presented in this lesson because of this characteristic of the child. He knows these objects; he has played with them many times; they appeal to him; he can respond. His drawings will express this loving familiarity with the object, and the interest that comes from close association. The objects in this exercise are the forerunners of his friends the sphere and cube.

To almost every child the ball has, in some guise, been a close companion. From the worsted ball with which the baby plays, and the colored ball of the kindergarten games, it is but a step to the rubber ball; and afterwards follow the base-ball, the foot-ball, the tennis and the golf ball. The basket also seems to possess a mystical charm for the average child. Its possibilities are so varied; one may imagine so many things in relation to it—what it holds, what it may be used for.

Preparation for the Lesson.—Tactfully question the children as to their playthings at home that are like a sphere or a cube; see how many can bring a ball or a basket or both. The thoughtful teacher will assist in this provision of objects, so that no little child may lack an attractive model. A teapot or a Japanese lantern will make a pleasing variety. Show the class good examples of the objects—balls of worsted, leather or cloth, that will call for texture in the drawing (not marbles or crystal spheres)—baskets of a large and simple weave, so that the attention may not be called to small details.

Having selected good objects for drawing, call upon the pupils for suggestions as to placing. Small objects can be advantageously placed upon the

desks. See **Placing**, page 79. There is a choice among the various aspects of so simple a thing as a ball—one aspect may be much more characteristic than another. The placing of the ball and string used as an object for the drawing-book page was a matter of serious study. A basket turned makes a more agreeable picture than one facing.

Suggestions for Pupils.—Look about among the objects for one that is placed and arranged agreeably—that you can see well and that looks well to you. Study the object for a moment. Perhaps you are looking at a base-ball. How do you know it is a base-ball? What is there about a base-ball that you do not find on other balls? Whether you have chosen a ball or a basket, remember that you want to show the whole thing and that, therefore, you do not want to make much of the details.

Sketch the object first on practice paper. Study the illustrations in the drawing-book on page 2; see how true a story is told by a few lines in the ball.

Sketch again, on practice paper, a different object if you like. Think of the space you have in the drawing-book and make your sketch of a suitable size, still looking at the whole thing and not at the details. If the basket is the model, be careful that the drawing of the top is not too wide from back to front. Compare your drawing with the object. What change will you make when you draw again? Then draw in the drawing-book, showing only a very few details, trying to make the ball look as if some one would like to play with it, and the basket as if you knew that it held something delightful.

Artistic Expression.—Selection is one of the cardinal points in the manner of expression by drawing. The general form only is essential and the details should be merely suggested. If in a drawing of a basket every stick or slat is carefully drawn, the thought awakened is that of manufacture and of the parts of the basket. The result is a picture of sticks; the impression of the basket itself is lost.

Lead the pupil to see that if he makes a great deal of the little things in his object he does not tell the truth about what he sees as a whole. He sees the *basket* first, and that is what he wants to show in his drawing,—not the little things that he has to look for closely. The children will soon learn the beauty of suggestiveness even in the outline, and so grow gradually towards fine expression in their drawing—accenting a little perhaps what particularly appeals to them, and now and then losing a part that is not of importance.

FRUIT.

"Pass the apples, please, again,
Russet, greening, snow, and pippin."

"Some yellow plums, I've brought,
And damsons too—blue-violet."

"See how in the fragrant fruit
The orange to yellow pales."

"When her fragrant fruit the orchard shed,
They helped to gather the apples spread
On the soft grass, yellow, russet, red."

Phoebe Cary.

Yellow and red were the apples,
And the ripe pears russet brown;
And the peaches had stolen blushes
From the girls, who shook them down.

J. G. Whittier.

N.B.—To be written on the Blackboard and referred to in connection with these Lessons.

The Apple.—Orchard, Blossom and Fruit.

EXERCISE II. A.—Apple, from the Object.

Object: To study a familiar and pleasing object of spherical form; to see and to draw the outlines of an apple.

Beauty of Form.—The leading thought in all work in Form Study and Drawing should be development through truth and beauty. All art has for its object the true expression of beauty.

The selection of all models or objects for this work should be governed by the interest of the child, for without that interest the work of the teacher will be hard and the results will be meagre. But the selection should also be governed, even in the most elementary stages of the work, by the thought of the beautiful, so that each lesson may have for its aim, not only a broader mental development, but also a higher spiritual development.

The objects given in the previous exercise have been models of type forms. These appeal to the child as type forms of their playthings, of their food, of those things that administer to their pleasure,—the beautiful to the little child is that which is comfortable and agreeable. But type forms are forms of ideal beauty. Through the use of these type forms of those things that are agreeable and therefore beautiful to him, the child is led unconsciously to the ideal. Hence the models given to the child should be as perfect embodiments of these type forms as possible. Imperfect models violate the first principles of the work.

For this exercise apples should be chosen which express best the general idea of an apple. Apples which are almost perfectly round can be found, but they cannot be considered as being the most beautiful examples, as they are not characteristic, and therefore not typical. The effort should be, at this time, not to find an apple that is like a sphere, but an apple that is most like an apple. Therefore try to have the apples used in this exercise, on the one hand, not too round, and, on the other hand, not unusually irregular. The apples should also have the beauty of freshness.

"There's a smile on the fruit."

A short lesson on choosing an apple should be given to the pupils on the day before this exercise. The teacher should have four apples—one that is

wider than it is high; one that is higher than it is wide; one that is as high as it is wide, and that is very round; and one that is *very* one-sided.

Selecting an Apple for a Model.—Can you mention any different kinds of apples? Can you tell anything about the difference in form of the different kinds? (*Some are wider than they are high*; *some are higher than they are wide*; *some are as high as they are wide, and almost like a sphere.*)

Here are three apples; look at their form. Think of the apples that you have seen and that you have eaten. Which of these three apples were the most of them like in form? (*The most of them were like the apple that is wider than it is high.*) How often do you see an apple that is just as wide as it is high, that is very round? (*I do not see an apple that is very round very often.*)

(The teacher presents the very one-sided apple with the one that is wider than it is high.) Here is another apple; which of these two do you like the better? Which would you rather have to eat?

Then, as you are each going to draw an apple, it will be well for you to try and bring one that has the form that you see most often, that is, one that is wider than it is high. If you cannot get such an apple, you can perhaps bring one that is higher than it is wide. Either of these will be better than one that is very round. Try also to find one that is not very one-sided, one that is fresh and firm, and that looks like a really good apple.

Single Fruit.—If a single apple is to be drawn a few suggestions on the board like the following are helpful:

FIG. 1.

FIG. 2.

FIG. 3.

FIG. 1. Which looks the most like an apple stem and why—*a*, *b* or *c*?

FIG. 2. Which looks more like the top of the apple below the eye, *a* or *b*? Resting a slender stick on the outline of the apple shows that the hollow is seen in front of the outline.

FIG. 3. This shows an apple and stem above the eye.

FIG. 4. Which looks the most like the blossom end?

FIG. 4.

Draw these on the board on a large scale, that pupils may use them if they feel that they express what they see. Erase the cruder ones, Figs. 1, *a* and *b*, Fig. 2, *b*, and Fig. 4, *c*, *d*, *e*. The very common error of making the blossom *four*-parted is shown in Fig. 4, *e*. It will be remembered that the apple blossom has five petals, not four. The blossom end of an apple, like any other small detail, should be merely suggested.

The shape of the blossom is seen in the heart of the fruit, by cutting from the centre of the apple a thin slice horizontally and holding it up to the light.

Place a pencil on the sphere (the pencil touches at but one point). Place a pencil across the top of the apple; notice where it touches and whether it slants; observe the bottom and the sides in a similar way.

Observation by the Pupils.—Pile two or three books together on the back part of the desk, so that the top face of the upper book will be even with or above the little guard rail at the back of the desk. Place your apple on the pile of books.

Study the apple on the desk next in front of your desk. Note the further part of the outline of the apple at the top,—that part back of the stem. Does it look higher than the stem, or does it seem to cross behind the stem part way up? (The answers will vary according to the apple which they study.) Look at the outline of the apple in front of the stem.

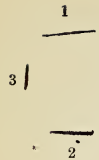


FIG. 1.

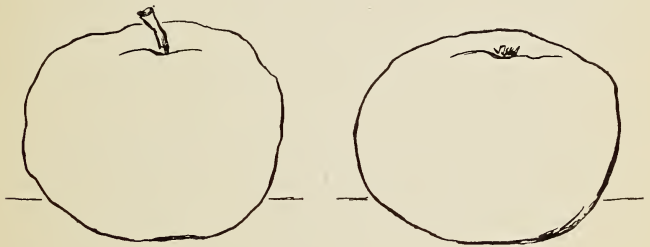
FIG. 2.

FIG. 3.

FIG. 4.

Directions.—Make on the left half of the page a *full-size* drawing of the apple just studied, blocking it in, as in Figs. 1, 2. Think carefully as to placing the drawing well on the page. Draw light lines to show height, as in 1, 2, Fig. 1, then light lines to show the width, as 3, 4, greater or less than the height, as the case may be. Draw straight lines for the shoulders (see Fig. 2), slant the sides if necessary, and draw straight lines for the lower part of the sides.

On the right half of the page block in the same apple again. Draw straight lines for the stem and the depression (see Fig. 3), always drawing two lines to show the width of the stem. Draw the curves of the apple over the straight lines. (See Fig. 4.) On the right half of the space the blossom view of the apple may be drawn.



Page 3. REPRESENTATION.—Nature Study: Fruit, Branches, Life and Growth, Grouping.

Lead the children to make sketches of fruit and branches of fruit, to choose and study their most beautiful aspect, and to draw them, studying the rendering in the examples.

Choice of Fruit.—The study of life and growth begun in the preceding exercise is continued here. Different localities offer varying opportunities for the study of fruit. Under sunny southern skies, the choice may rest on the orange.

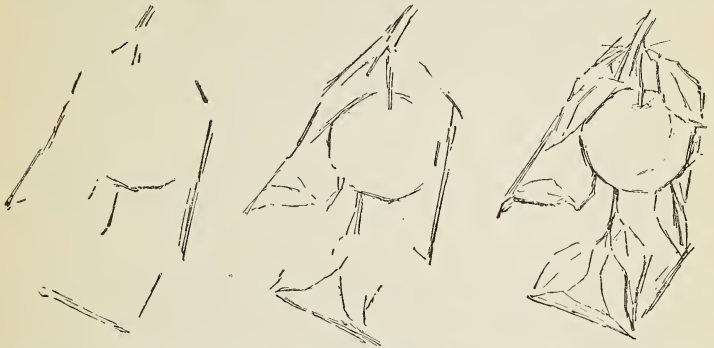
The fruits most easily obtainable in colder sections are also good for this lesson—

> "Fruits that swell in sunny June,
> And redden in the August noon."

Preparation for the Lesson.—Lead the children to tell you how fruit grows. Speak of the form of the tree and the direction of its branches. Some fortunate children away from the city's crowded streets, who "know where the apples hang ripest," will be able to bring in a branch of fruit; others must content themselves with the fruit as it is sold in the market, but the thoughtful teacher may be able to provide one or two fruit-bearing branches, to give the children the thought of growth and the living relation of the fruit to the branch.

Arrange the branches which have been brought, in a pleasing, easy and natural position, not too near the pupils but near enough for them to see the growth of the fruit stem from the branch. If but few branches can be obtained, they may be hung in various places, so as to give the best opportunity for study to the greatest number. If they are hung on the blackboard for the pupils in the front seats, a piece of white or neutral tinted paper should be placed behind them. A pasteboard folded like a table picture-frame or an open book standing on a board across the aisle serves very well as a support for a small branch. Lead the pupils to think of the interesting part of the branch; the upper part is frequently unattractive and then need not be drawn. If a branch is unobtainable, the fruit alone or a fruit with one or two leaves may be placed on a board across the aisle; but lead the thought always to the growth and life as far as possible.

Blocking-in.—Attention should be given in drawing to study and expression of the mass first. Blocking-in (which is simply expressing general proportion and direction by straight lines) serves to direct the thought immediately to the mass, rather than to details, and gives a quick and simple means



of showing the general outline. Train the children to use the pencil lightly, with a long, loose holding; and to watch the object more than the pencil,—seeing the form with the eye, and feeling for the form, as it were, with the pencil.—*See* **Blocking-in,** *page 13.*

Suggestions for Pupils.—Choose the branch that makes the most pleasing picture. Observe the direction of the branch. Notice the leaves, see how they turn in different directions, seldom one presenting its full face to the observer. Make a quick but thoughtful sketch on practice paper, slightly indicating the general mass and blocking-in the main lines of branch, leaves, and fruit. Begin with lines of growth; use straight lines to show structure. Compare the work with the object as to the proportion and position of the whole branch.

Make another sketch on practice paper, of a different branch if you like, studying the illustration in the drawing-book for an example of rendering. Study again the direction and growth of the stems, the shape and position of the leaves, and the form and place of the fruit. Make necessary corrections with brighter lines; erase very little if any. Try to make the work in the drawing-book express all of the life and brightness of the fruit and the freshness and delight of your study of it.

Life and Growth.—If the children remember that along through the branches, out into the leaf and fruit stems flows the life-giving sap, they will

feel that in their drawing they must show that the smaller branches and stems must flow out, as it were, from the larger branches and that the growth must always be outward toward the end of the branch. If they get the idea of flowing growth, they will express it in their drawing. They have here to think also of the clothing of the stem and how it gathers a little at the fork where a new branch or leaf starts out from a larger branch. It will help also for the children to see that as the leaves are thin and light, they have very little weight, and therefore the leaf stalk is but slightly curved in its growth, while the weight of the fruit bends its stem with a greater curve.

Added Interest.—Emerson speaks of the apple as the social fruit of New England. Thoreau gives a chapter to the wild apple. No one can read the hearty praise of the apple by John Burroughs without a stirring of sympathetic memory.

"Not a little of the sunshine of our northern winters is surely wrapped up in the apple. . . . An apple orchard is sure to bear you several crops beside the apple. There is the crop of sweet and tender reminiscences dating from childhood and spanning the seasons from May to October, and making the orchard a sort of outlying part of the household. . . . Then, there is the never-failing crop of birds—robins, goldfinches, king-birds, cedar-birds, hair-birds, orioles, starlings—all nesting and breeding in its branches."—*Winter Sunshine.*

"Did you ever hear of the golden apples that grew in the garden of the Hesperides?" This is the way Hawthorne's story of "The Three Golden Apples" begins in "A Wonder Book for Girls and Boys." Botanists have perpetuated the classic fable by their use of the term *hesperidium* for the orange family.

> "Know'st thou the land where the lemon-trees bloom?
> Where the gold orange glows in the deep thickets' gloom,
> Where a soft wind ever from the blue heaven blows,
> And the groves are of laurel and myrtle and rose?"
>
> GOETHE, *Wilhelm Meister.*

Other Studies.—This lesson naturally suggests a geography lesson. It will lead directly to climatic differences, and to comparisons, in other respects, of the different sections in which are found the apple and the orange. It furnishes opportunity also for illustrated language lessons, always enjoyed by the children: some are suggested by the full-page illustration — the old

house where we go to see grandfather, with its close-encircling trees and clover-scented lanes—the bloom of the orchard, where the low, spreading boughs invite the dreamy reader to a seat among the fragrant blossoms, and the branches grow down low, specially for a swing, and we swing back and forth in the sweet pure air.

EXERCISE III. A.—Vegetables. Form and Growth.

Lead the children to make sketches of vegetables and their grouping, to choose and study a pleasing group, and to draw it in the drawing-book, studying the examples.

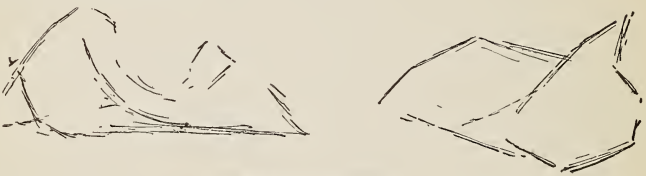
Preparation for the Lesson.—Still the study of growth is continued. The material for this lesson is so easily obtainable that every child can have the pleasure of contributing if necessary. The red radish, the beets of darker hue, the turnip, the glistening onion, and the tomato are all good subjects. The examples of each should, however, be carefully chosen. Selection should be constantly borne in mind. Allow the children to draw only those vegetables that are fresh and fine. The pumpkin, a lordly sphere, can be occasionally introduced. The presence of the leaves with the vegetables will add much to the interest of the lesson if they can be kept fresh. It must be remembered that they will wilt readily and then are not desirable.

Many town children are quite ignorant of vegetable life and growth. To them it would be a beautiful revelation could they see the vegetables just as they appear when pulled from the soft earth. Question the class in such a way as to lead, if possible, to a description of the planting of the seeds and the characteristic growth of the plant and the root. Speak of the use of vegetables and their value as food. Lead the children to see also their beauty of form and color.

Let the children help in arranging the vegetables in groups about the room to make good pictures. Lead them to notice the illustration in the drawing-book; the objects do not crowd each other nor are they so far apart as to give the impression of being scattered. Try to get a restful feeling in the groups, the vegetables being placed in an easy, natural way, in slightly varying directions or positions. The full-page illustration suggests the grouping of vegetables with objects.

Suggestions for Pupils.— Choose a group that is pleasing in its aspect and sketch it on practice paper, indicating first by a few light straight lines the space to be occupied. Strive for the feeling of the vegetables. They are not hard, they have no edges, but they have vigor and a kind of sturdiness that may be expressed in some places, though not wholly, by strong, straight lines. Compare your drawing with the group and try again from the same group or from a different one.

Study the illustration in the drawing-book for good, simple rendering. Notice the varying lines; it makes us feel that there is often just as much expressed by the absence as by the presence of a line or a part of a line. Sketch again on practice paper, studying to adapt the size of the sketch to the space on the page. Compare your drawing with the group. Be very careful that you do not make your drawings look as if two objects occupied the same space. When ready to put the work in the books plan thoughtfully for the space on the page. Block in as before, and sketch lightly and quickly, trying to express the life of the vegetables.



First stage in blocking.

Second stage in blocking.

Copies.—Good copies are as necessary and helpful to the child as art studies to the adult. They assist in providing a regular sequence in study, and save the time of teacher and pupil. The illustrations in these books give pupils good examples of form, line and composition, and are helpful by their suggestiveness as to subject and as to manner of rendering. In some cases the

children may gain much by copying, and the teacher will frequently find copying advantageous as an intermediate stage between the first sketch and the final drawing from objects.

Spirit of the Lesson.—Speak of the care and thought that is given to the growing of vegetables by the market-gardener and the farmer. Try to have the children feel something of the dignity and worth of human labor.

> "Yes, in the poor man's garden grow,
> Far more than herbs and flowers,
> Kind thoughts, contentment, peace of mind,
> And joy for weary hours."
>
> MARY HOWITT, *The Poor Man's Garden.*

Fine Thought—Associate the vegetables with the cool, grateful earth. Tell the children that they have been chosen as the subject of the painter's brush and the poet's verse. If there should be time, read to them Whittier's poem, "The Huskers," or "The Pumpkin," or Celia Thaxter's "In the Black Forest."

> "They gathered the autumn harvest –
> All toil-worn and weather-browned;
> They gathered the roots they had planted in spring,
> And piled them up on the ground.
>
> "We heard the laughter of children,
> And merrily down the road
> Ran little Max with a rattling cart,
> Heaped up with a heavy load.
>
> "Upon orange carrots and beets so red,
> And turnips smooth and white,
> With leaves of green all packed between,
> Sat the little Rosel bright."

Other Means of Interest.—The children will find much pleasure in searching for pictures of vegetables and in planning for a garden of their own next spring. Earnestly encourage garden work for those to whom it is a possibility. Seed catalogues are very helpful in selection for a garden; but the leading magazines and illustrated papers will be the best place to look for pictures.

In schools where this work is new, both pupil and teacher may find the lessons on groups too difficult. In such cases two lessons from the above could be used for Exercise 3.

Let the subject grow. Have in mind the progress sought, and take time to do the work well.

Remember that the paper shows only a part, perhaps a small part, of what the child has gained from a good seeing lesson.

"To let the new life in, we know
Desire must ope the portal."

EXERCISE III. B.—Study of Natural Objects. Blocking-in.

Object: To study a potato; to see its proportion and outline; to draw its outline by blocking-in.

The Potato.—The value of any lesson depends largely upon its practicability. An admirable lesson in drawing from the natural object might be laid out theoretically on the bread fruit, but as the bread fruit is quite unattainable, such a lesson would hardly help here in drawing from the object. The potato has been chosen as the object to be studied in this exercise, because it is so universally used that it will be possible for every pupil to bring one as a model.

A potato is sometimes very nearly round or spheric; sometimes when not round it is almost symmetric, but it is more often oblong in form and most generally unsymmetric. If pupils have been trained in "The Use of Models," they will find its general resemblance to an ellipsoid. It would not be well to choose for a model a round potato, or one that was quite symmetric, neither would it be well to select one of abnormal irregularity. A talk with the pupils the day before the lesson, as to the usual form of the potato and a request that they should select one that looked like a very good potato to eat, will prevent specimens being brought which are exceptional instead of characteristic.

Added interest may be given to this lesson by telling how great a traveller the potato has been. The Spaniards discovered its use by the natives near Quito. It grows in the temperate zones; and it was cultivated, at the time of the discovery of America, in all the temperate parts of South America. In 1586 the colonists sent out to North Carolina and Virginia by Sir Walter Raleigh returned to Ireland and took with them some American potatoes, which were at once planted and cultivated on the estate of Sir Walter, near Cork. In this way potatoes were introduced into Ireland.

There are many varieties of potatoes, which are divided in a broad way into four classes: rounded forms, which are nearly round; long forms, or "kidneys;" "lapstones," which are more or less flattened; and "pebbles," which are broader at one end than at the other. The potatoes brought may

be classified according to this division, and thus the pupils will be brought in a new way to notice the forms.

A great many of the pupils will have no idea of the way in which potatoes grow. They will be glad to hear how the long stems run underground and swell out now and then into what is called a tuber. This tuber is the potato. Potato plants are cultivated by hoeing the earth up over the roots and underground stems until a little hill is formed. When the potatoes are ripe, the hills are opened with a hoe, and the potatoes, which are then a light golden-brown, gleam in the dark earth. The potato plant has a very pretty flower which ripens into a ball or berry.

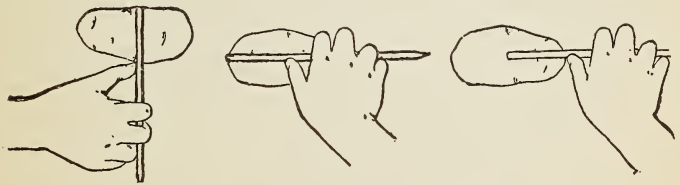
For the purpose of understanding just what is meant by blocking-in, study the potato in the manner indicated below for the pupils. This will enable you to see the proportion of the potato and the general shape of its outline. Draw the potato by blocking-in lines. You will find yourself very much attracted by blocking-in, after you have tried to express the outlines of a few objects in this way. Study the eyes carefully as to place and direction; indicate them only very slightly in the drawing. Then look at the further edge of the book on which the potato rests. The book should be but a little below the level of the eye. The book serves as a rest for the potato, therefore a line representing its further edge is called a *rest line*. If the book is placed too far below the eye, the further edge will appear to be very high up behind the potato. A rest line too high up does not produce a pleasing effect in the drawing. If, on the contrary, it is too low down, the object has the appearance of being too near the edge of the table, which is likewise not pleasant.

The blocking-in may at first look to you a little unfinished; but it must not be considered as an attempt at a finished drawing. The work upon this page of the drawing-book should stand as a sketch showing all the steps taken,—the means of approaching the representation, and working out the thought that is in the mind.

Placing a Drawing.—This is of great importance. In the previous exercises in this book, points have been given as guides in placing the drawings. In lessons from objects, it is not possible to determine any point, as the objects drawn are likely to vary in size and proportion. Pupils should be taught how to consider their space before beginning to draw, and how to plan the placing of their drawing. In this exercise there will be sufficient space to make a full-size drawing, that is, a drawing as large as the object.

The spaces above and below, at the left and at the right of a drawing, are called **margins.** Drawings should always be placed so that the left and right margins will be equal. The upper and lower margins may be made equal, but it is generally desirable to have the upper margin greater than the lower. This freer, broader space above is analogous to the expanse of sky and atmosphere above us, and, like it, gives an effect of freedom. The purpose of a margin is to separate the drawing from other things about it, and thus to give it an individual character. A margin of good width renders a drawing much more effective. It is well to remember this in framing pictures.

The word margin has different specific significations, but always refers in some way to the edge. The margin of a leaf is the edge. The margin of a printed page is the uncovered space between the printing and the edge of the page.



Measurement.—The proportion of the potato can be measured by comparing the height and width as illustrated.

To be developed.—Proportion; blocking-in; rest line; placing of drawing; margins.

Suggestions for Study of the Model by the Pupils.—Place the object on a book: With the left hand, lift the book nearly to the level of the eye. With the right hand, measure the height of the object, on the pencil, placing the pencil against the

object vertically. Hold the pencil with the point upward, so that the lower end seems just to cover the *lowest* part of the outline of the object, and move the thumb until it seems just to cover the *highest* part of the outline of the object. Compare this with the width How do the distances compare? About how many inches is the object from top to bottom? from left to right?

Hold the object at arm's length on a level with the eyes and trace its outline with your finger on the object. Lay your pencil across the top; is the pencil horizontal or oblique? Lay your pencil on the sides; is the general direction vertical or oblique? This study will give the direction of the **blocking-in** lines. *See page 13.*

How far up on the potato does the further edge of the book appear to be? When you have drawn the potato, represent the further edge of the book by a line each side of the potato, thus drawing what is called the rest line.

The illustrations show the stages of drawing, Figs. 1, 2 and 3.

FIG. 1.

FIG. 2.

FIG. 3.

Directions.—Make a large drawing on this page, full size of the object if possible. Draw light, indefinite lines to show the height and width, studying the object carefully for the general proportion and for the direction of the blocking-in lines for the first stage. Add other straight lines necessary to complete the blocking-in. If your first line does not seem quite right, add another without erasing the first. Draw the curves over the straight lines. Add details, but not too many, and the rest line. *No erasing.*

This lesson may fill only the left half of the page, and be followed by a lesson on a single fruit for the other half.

EXERCISE III. C.—Natural Objects. Fruit, from the Objects.

Object: To study the form of a lemon and a pear, and to express it by drawing.

The Lemon.—Here is a tropical fruit almost as familiar to us as if it was from our own fruit trees. All associations with it are pleasant,—its fragrance, its grateful acidity, its refreshing flavor, its agreeable color. As it is really a foreigner, it has also somewhat the charm of novelty. It is not perfectly regular in form, is slightly indefinite in outline, and is expressive in itself of the goodness that lies within.

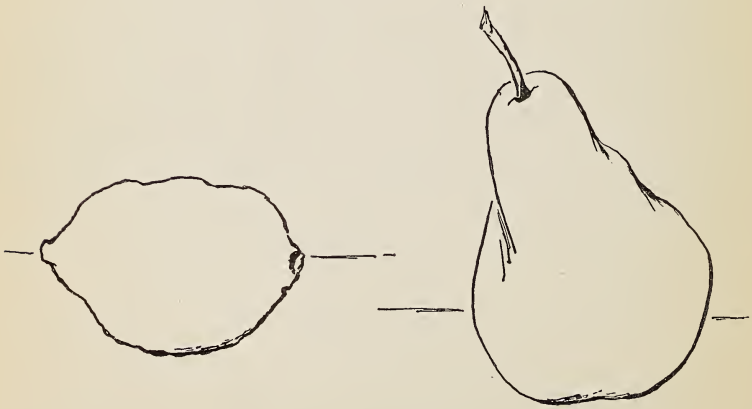
The Pear.—This may be one of our own pears that has grown in our midst, juicy, luscious, at once both firm and melting. It may be, perhaps, a travelled pear from California, and may tell us of that sunny land. However that may be, we can enjoy its rich color, its peculiar form, and the remembrance which it brings to us of the good pears that we have eaten.

How to Draw them.—The pupils cannot as yet know much of artistic "rendering," but if the teacher can make them feel the goodness that lies in both the lemon and the pear, the pleasure that both give to the taste and to the eye, they will express in their drawing some of those things that make the fruit pleasant; and that will be a step towards artistic rendering. For artistic rendering is bringing out by drawing, painting or modelling, with the proper recognition of the relative value of the parts, all the beauty and goodness that lie in the object drawn.

The lemon and the pear are fresh and firm because there still remains in them something of the life that made them grow while upon the tree, and that life and growth was always pushing outward. To express some of that pushing force which shows itself here and there in the form of the fruit, as well as to get the general mass of form, blocking-in lines are used.

Blocking-in.—Blocking-in is of great use in two ways: first, as a means of *studying* a form; second, as an aid in *drawing* a form. As a step to blocking-in, a pencil may be laid across the fruit at the top, at the bottom, at the left, at the right, to get the principal directions of the outline.

See "Quality of Line," page 12.

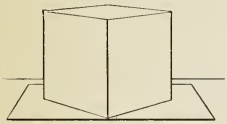


Page 4. REPRESENTATION.—Cube or Cubical Object: Models, Cube, Boxes.

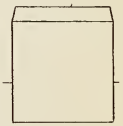
Object: To study the silhouette of a cube, turned evenly, and of a cube turned unevenly.

Preparation for the Lesson.—Teachers are referred to the lessons on groups for aid in preparation of the lesson and arrangement of objects.

It will be an aid to seeing, if each cube be placed with the lower front corner resting on a line that will appear horizontal to the pupil.



Hold the cube turned with an edge towards you and somewhat below the eye, and notice the visible horizontal edges; you will see that as they recede to the left and to the right they appear also to converge to the left and to the right. You will also see that the two vertical faces appear narrower from left to right than their height, and that the top face appears much narrower from back to front than from left to right.



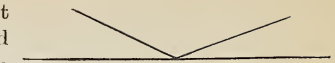
Hold the cube facing you and somewhat below the eye; you will see the front face as a square; the top face will appear oblong, being apparently not nearly as wide from back to front as from left to right; and the left and right edges will appear to converge as they recede.

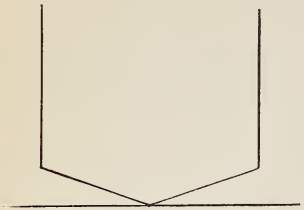
These facts must be quite clear to the teacher so that pupils' errors may be quickly checked. It will not be wise, however, to try to get these statements from the children for this exercise. Find what they see from what they draw, lead them on to see more and more, and the drawing will improve.

Suggestions to Pupils.—The cube turned unevenly. The front edge of the paper, on which the cube has been placed as directed, will now be used as a guide.

The children will quickly see that the base lines of the cube do not diverge from the horizontal edge of the paper exactly at the same angle. That one lower side corner of the cube seems nearer the horizontal than the other.

Ask them if they could draw the front edge of the paper, and then if they could show or draw the space between it and the cube. This will centre their attention on mass instead of on line.



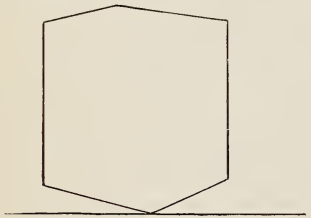


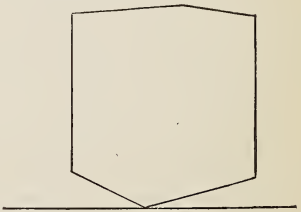
Let the pupils try to trace this in the air—first the horizontal edge of the paper, and next the lower lines of the cube. This repeated with their eyes shut will form a mental picture of those two angles.

Next lead them, without telling them, to see that one line seems shorter than the other.

By tracing or drawing in the air, show that the verticals remain vertical, and keeping to the outline trace for the top the two back lines only, watching that the seeing leads to the placing of the far corner of the top towards the side where they see it.

Tracing the lower lines and then the upper ones, will perhaps make them feel that the upper ones more nearly approach a horizontal; or, as they would express it, the lower ones slant more than the upper ones.





No inner lines are needed. Proceed in like manner with the cube turned evenly. There you will want them to see that both sides are alike, and corners opposite. The cube facing may be left for the groups.

Tracing on the printed copy is helpful. Be content with crude results if you are only leading the child to see:—

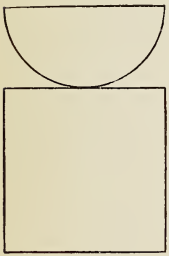
"He who always does his best,
His best will better grow."

Page 5. REPRESENTATION.—Familiar Forms.

Object: To study a group of two models as to the appearance below the eye, and also as to its top view; to draw either the appearance or the view.

Review.—As it is some time since the models have been studied, the sphere, cube, and hemisphere should be again put in the hands of the children. What they have already learned concerning these models should be brought out as a review.

Appearance of the Hemisphere below the Eye.—Invert the hemisphere. Its front view is a semicircle; its top view is a circle. Raise it to the level of the eye. Lower it gradually until it is at an angle of about 25° below the eye. Watch the changing appearance of the top face. In the front view you could not see the top face; you could only see its edge as the diameter of the semicircle. As the hemisphere is lowered, the top *face* comes in sight and appears like an ellipse, or as the children sometimes say, "like a circle squeezed together." This shape becomes still more apparent if you compare it with the outline of the lower part of the hemisphere, which is that of a semicircle. You see also that the hemisphere does not appear quite as wide as the front face of the cube, as the widest part of the hemisphere is a little further from you than the cube; also that the hemisphere appears to touch the top face of the cube a little in front of the centre.

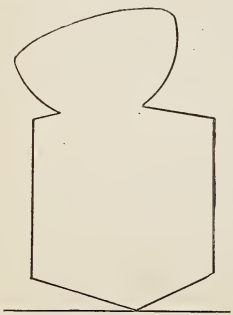


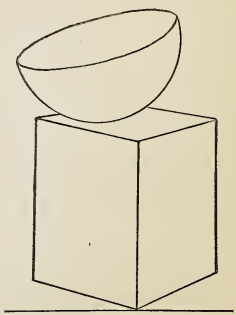
The Group.—After the appearance of the hemisphere has been observed, draw the group. While drawing the group, its appearance will grow more distinct to the eye. In giving the work to the pupils, be very careful not to tell them what they ought to see; have them tell *you* what they see and draw what they see. It will not be hard for them to see the appearance if they are left free. For directions for placing the models see page 79. Great care should be taken not to have the models too near the pupils, or too far below the eye. Lead the pupils to conclude from various experiments that things appear smaller as they are carried away from the eye.

To be developed.—Appearance of group below the eye; top faces do not appear as wide from back to front as from left to right; left and right edges of top face of cube appear to approach each other; drawing the appearance; quality of line.

Suggestions for Study of Models by Pupils.—Hold the cube at arm's length and on a level with the eye. Hold it with one face toward you. What do you see? What view of the cube is it? Hold the cube close to the waist in front and look down upon it. What view are you observing now? What would you draw for the top view? Place the inverted hemisphere upon the cube. Hold these on a level with the eye. What would you draw for the front view? Hold them at the waist. What do you see now? What view is it? What would you draw for the top view?

Study of the Group by Pupils as to its Appearance.—Place the models (the inverted hemisphere on the cube) on your desks. Look at the group on the desk in front of yours. How many faces of the cube can you see? Do you see all of the top face? How many faces of the hemisphere are visible? Do you see all of the rounding face? How does the top face appear? How does its *apparent* width from front to back compare with the width of the top face of the cube? How does the *apparent* width from left to right compare with the width of the cube? Recall the top view that you have just observed. How does the actual width compare? Why does it appear to be less? Look out of the window; how does a man away down the street look compared with one near by? How does a house that is far away look compared with one that is near? How does anything far away appear? (*Anything far away appears smaller than it does when it is near.*)





Drawing the Hemisphere on the Cube.—Observation by the Pupils.—When about to make a drawing what must you consider? (*We must consider what we are going to draw, and the size of paper or space upon which we are to draw.*) What is necessary

that a drawing may look well on the page? In drawing the hemisphere on the cube as they appear to you, what will you draw first? (*I will draw a silhouette of the whole group.*) What will you do then? Correct and add inner lines and rest line. It would be wise to draw the outline twice, adding the inner lines to the second drawing only.

EXERCISE V. A.—Sphere on Cube.

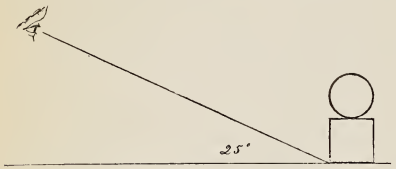
Object: To study a group of two models as to their appearance below the eye.

The text for this lesson is long, not because it is a difficult lesson for the pupils, but because it brings up several topics which are new to many teachers. Every model or object, except the sphere, presents a different aspect according to the position in which it is observed. The sphere appears always the same in outline. But take the cube. You have already observed that it can be held so that one, two, or three faces can be seen; in each case its outline must be different from its outline in the other cases. Hold the cube directly beneath the eyes and look down upon it, so as to obtain the top view, a square. Hold it at arm's length directly opposite the eyes, so as to obtain the front view. Now lower the cube slightly; holding it still at arm's length, you will get a glimpse of the top face, but *appearing* not like a square as in the top view. You know that the top face of the cube is a square, but it does not *appear* so to you now. In studying the top face in this position, you will study, then, not its *facts*, but its *appearance*. In studying the appearance, you will study a truth concerning a real aspect of the cube, but it will be of an entirely different nature from the truth of the facts of its form. It is the truth of its appearance to the eye. The facts of an object should be studied both by touch and by sight; the appearance of an object can be studied by sight only.

The models grouped for this exercise are the sphere and the cube. These are models of the simplest and most regular of all the type forms, hence there is a peculiar fitness in grouping them together. In the grouping for this exercise, the sphere is placed upon the cube. By experiment it will be found that the best effect is obtained when the sphere is placed upon the centre of the top face. Children can be led to appreciate this point. As these models are so perfectly regular, this group should be very regular.

A group of models, rather than a single model, has been chosen for this exercise, because it is easier to see the true appearance of objects when grouped than when studied separately. In studying the appearance of objects, as in all other study, the order should be from the known to the unknown. The sphere, the appearance of whose outline is always a circle, is grouped with the cube as an aid in studying the appearance of the cube.

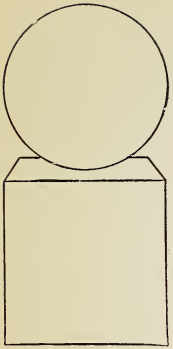
Place the cube facing and the sphere upon the centre of the top face of the cube for the study of the appearance of the group. The appearance will be the most pleasing if the group is placed so as to be at an angle of about 25° below the eye. If placed at a greater angle, the effort required to see it is greater. This effort to see will be reflected in any drawing of the group by a slight effect of constraint. Such an effect should be prevented by careful placing of the group.



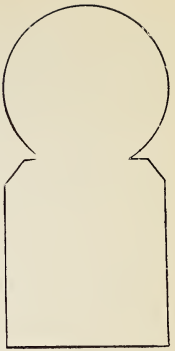
Study first the appearance of the outline of the sphere, which is a circle. Look now at the front face of the cube; this appears as a square. Look at the top face. You cannot see all of it, as part is hidden by the sphere. The part hidden is the part furthest away from you. You can see but part of the further edge of the top face. You see the left and right parts of that face, but not the middle. You see that these left and right parts appear to touch the outline of the sphere. You see that they appear to touch this outline quite low down,—not nearly so high as half-way up the outline.

Now look at the left and right edges of the top face. You see that those edges *appear* to run toward the outline of the sphere. Remember that you are now studying the appearance; you must give no thought to the facts, but be true to the appearance. If the left and right edges *appear* to run toward the outline of the sphere, you must recognize this as a *truth* of appearance.

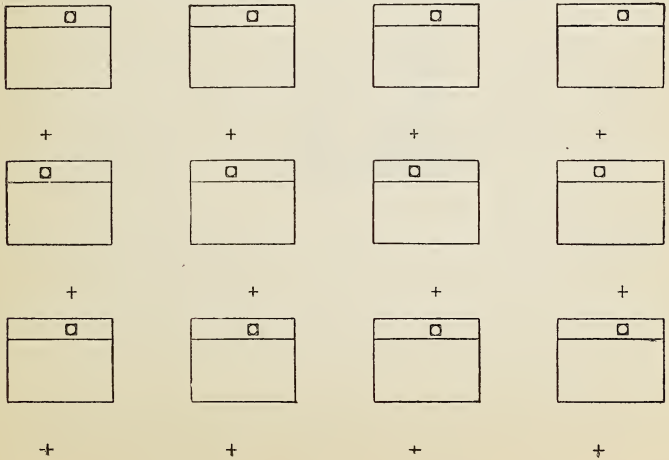
Look now at the lowest part of the outline of the sphere. You see that it does not appear to touch the centre of the top face of the cube. It appears to touch in front of the centre. This is because you are looking slightly down upon the sphere and therefore cannot see the point where it really



touches the face of the cube; you see only the point where it *appears* to touch the cube. Notice that the sphere does not look quite as wide as the front face of the cube. The illustration shows the true appearance of the group below the eye—with the outline of the sphere appearing below the centre of the top face. Now draw the appearance of the group, remembering to make the drawing of suitable size for the space and to make the left and right margins equal. The upper margin may be wider than the lower, but the lower should never be wider than the upper. Pupils must be aided in planning the space and size for this drawing.



In giving this work to your pupils, do not attempt to develop with them all that has been stated. Above all, do not tell them what they ought to see.



Let the pupils sit alternately a little toward the left and the right of their respective desks, beginning by having those in front sit at the left. Let those pupils sitting at the left arrange the group on the back of the desk at the right end; let those sitting at the right arrange the group on the back of the desk at the left end. Each pupil, except those sitting in the front row, can then study and draw the group on the desk in front of his own. If possible, do not have the seats in the front row occupied. This can sometimes be accomplished by having the pupils in the front row take the seats of those who are absent. If this is not possible, let each pupil in the front row arrange a group to draw from on the desk opposite, being careful, however, to place the cube somewhat turned on the desk, so that the cube may face him squarely when he looks at it. A plan of the seating is given on page 79, the crosses representing pupils.

It is important that the drawing for this exercise should be the results of the pupil's own observation; therefore each pupil must study a group, and the teacher must be very careful merely to guide the seeing and not in any way to force it. Especially do not speak in any way of perspective; this is not intended as an exercise in perspective, but as an exercise in studying and drawing a group as it appears.

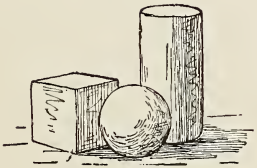
Other Models.—If the pupils have had two years' training in "The Use of Models," it will be well to take this opportunity to use some of the other type forms for groups. The sphere may be placed upon the cylinder or upon the square prism, horizontal from left to right. In the former case, the drawing may be made the other way of the page. Different groups may be assigned to different rows. The same method of study may be applied as in the case of the group of the sphere and cube.

Suggestions for Study of the Group by the Pupils.—Those in the front row may sit a little at the left, those in the next row a little at the right, and so on,—every other row at the left, every other row at the right All may arrange the models back on the desk on the side opposite you,—those on the left arrange on the right end, those on the right arrange on the left end. Place the cube first, facing the front of the desk. Upon it place the sphere so as to look well. Those in the front seats may take the vacant seats in the room.

Observation by Pupils.—Look at the blank space on the page. There are no points given to help you in placing your drawings. Where should the drawing be

placed so that the page will look well? (*The drawing should be placed in the middle of the space.*) In drawing in a blank space, what margins should you leave about the drawing? (*There should be a margin at the top and bottom, at the left and right.*) How should these compare? (*Those at the left and right should be equal; those at the top and bottom may be equal, but if they are unequal, the margin at the top should be greater than that at the bottom.*)

Directions.—Draw the appearance of the group. In either case, decide on the proportion of width to height of drawing, and plan for good margins before beginning to draw, by placing four strokes. First draw the silhouette only. Correct and add inner lines.



Page 6. REPRESENTATION.—Grouping Models: Tumbler with Spray of Leaves; Form, Appearance.

Let the children gather sprays of leaves and practice placing them in tumblers; have sketches made. Select and study a tumbler and spray of pleasing aspect and draw them in the drawing-book, studying the examples.

Familiar Objects.—The third type-form, the cylinder, is presented in the tumbler—an advance in thought being gained by the study of the appearance of the water in the glass, and an added interest given by the presence of the branch of leaves, a delight in the fresh, beautiful growth.

Preparation for the Lesson.—Ask the children to bring, if possible, a small tumbler and a simple branch of leaves. If the enthusiasm of the children can be aroused so that they will provide their own objects they will draw with much more interest. Lead them to feel that only fine examples should be brought for the drawing lesson. A very common wayside plant may serve the purpose admirably if the leaves are simple and the spray is well balanced and full of life.

From the branches or sprays brought by the children take up two or three good examples from different plants or shrubs and contrast their general appearance; speak to the children of each one as something to be considered as a whole. The sprays should be arranged in the glasses in a natural way and so as to present a good effect to as many pupils as possible.—See **Placing,** page 15.

Suggestions for Pupils.—Look at the various glasses with sprays that have been placed about the room, and select one that you can see well and that looks well. Make a sketch of this glass and spray on practice paper. Compare your sketch with the glass and spray from which you drew. The tumbler is made of glass which is firm and even, while the leaves are tender. Have you shown this in your drawing? Look at the ellipses at the top and bottom of the tumbler and at the ellipse at the surface of the water. How are they in your drawing?

Make another sketch of the same or of another tumbler and spray, trying to show by a difference in line the difference between the life, growth and tenderness of the leaves and the firmness of the glass. Perhaps you can show also some difference between the line for the top and that for the sides of the tumbler. Study the example

in the drawing-book for ways of rendering; see how clearly the drawing shows that the tumbler is made of glass.

Now notice the branch; see how the stem appears just at the surface of the water. Perhaps some have the branch so placed that the stem appears broken just at the surface of the water. Notice how the leaves turn in different ways: some turn their faces to you, some the side of the leaf, others the back; some stand quite erect, while others droop, and still others curve.

Plan thoughtfully for the space on page 6, so that the drawing shall be of a size to look well on the page. Make a careful drawing of the tumbler, showing the water in the glass as you see it. Make a light, quick sketch of the branch, noticing whether some leaves show more plainly than others and studying thoughtfully the positions of the leaves. Now, looking at your glass, see how strong and clear this line is, how light that and how, where the light gleams in the glass, the lines of the twig and the ellipse formed by the water surface behind have, in places, *entirely disappeared*. Try to show these things in your drawing and to make the branch look fresh and strong.

Spirit of the Drawings.—The suggestions for pupils show the spirit in which their drawings should be made—that of observing the object, observing the work of others, and learning to see and feel for themselves.

The teacher should be ready to guide the observation and should be sure of certain foundation principles—such as in this exercise the variation of the appearance of horizontal circles at different distances below the eye. Great care should be taken, however, not to impose such principles upon the children, for these early exercises are intended as exercises in seeing and drawing.

The expression of the difference of texture in different kinds of leaves is one that can hardly be explained in words, yet this difference should be shown in any technique. Definite statements cannot be made about it, but by observation of the leaves themselves and of good examples the children may come to *feel* the difference. Here again the copying of good examples is of value.

Added Interest.—It would add to the pleasure of the children if some interesting account of the manufacture of glass could be given. A child who has witnessed the operation of glass-blowing could greatly interest his classmates. The different kinds of glass might be spoken of; and the various artistic manufactures of glass,—Bohemian glass, famous for the richness of its color and the delicacy of its engraved ornamentation—cameo glass, of which the famous Portland vase is an example—Venetian glass, characterized by beauty of color and lightness of substance.

EXERCISE VI. A.—Appearance of Tumbler.

Object: To study the appearance of a tumbler below the level of the eye, and to draw that appearance.

Appearance of the Tumbler. First Drawing.—This exercise requires two drawings. In the first, two circles at different distances below the eye are compared as to appearance; in the second, three circles are similarly compared. The tumblers used in this exercise should be of the kind known to dealers as "straight;" that is, having vertical profiles. It will not do to depend upon the study given to the cylinder; it will be necessary to study the tumbler itself. Hold it at different distances below the level of the eyes. If the tumbler is not very thick, you will be able to see the further part of the bottom through the glass, and you can compare its apparent width from back to front with that of the top. You will find that the lower ellipse appears wider from back to front than the upper.

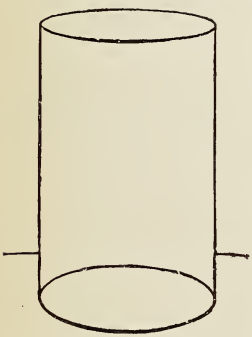
Second Drawing.—Fill the tumbler half full of water, and hold it somewhat below the level of the eyes. You will see that the top of the water appears like an ellipse also, and that its apparent width from back to front is greater than that of the top and less than that of the bottom.

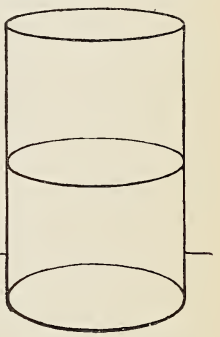
Statements.—In these two exercises, pupils observe carefully the changes in appearance that a circle undergoes when seen obliquely and at different distances above and below the eye. In all exercises, time should be given pupils to answer thoughtfully any question before another is given. The purpose of the questions suggested would be defeated if two or three were given together, or if any answer should be given without the needed observation on the part of the pupil. The questions are intended to lead to individual observations. When these things are clearly seen by the pupils, they should be led to make definite statements concerning these changes in appearance.

Added Interest.—If you will notice tumblers, you will see that there is a great difference not only in delicacy of material, but also in proportion. You say of one, "Ah, it would be pleasant to drink from that tumbler!" Perhaps you do not think why; but it is not only because it is of delicate material, and therefore pleasant to the lips, but it is also because its form and

proportion are well adapted to its purpose. Observe tumblers; they are of various forms. Some are of equal width all the way down, called "straight," or "ship-shape;" some are the widest at the top, called "flares;" and occasionally some are the widest a little below the top, called "cups;" but none are the widest at the bottom. In early times drinking-glasses were made with rounding bottoms, so that a person who began to drink must finish or hold his glass. If the glass were set down, it would tumble; hence it was called a tumbler. We frequently find vases widest at the bottom; can you tell why tumblers are not made so? Notice the general proportion of width to height, and how this proportion varies in the different forms. The usual proportion of width to height in "straight" tumblers is 2 to 3. In "flares" the usual proportion of the width at the top to the height is as 3 to 4.

If you find tumblers varying much from these proportions, try drinking from them, so as to learn from which it is most pleasant to drink. After you have made such a trial, you will find that the tumbler will be the most pleasing in form to your eye from which you found it the most pleasant to drink. Try to drink from a tumbler of equal width all the way down, that is also very tall in proportion to its width, and you will find the rim is very much in the way as you tip the glass up to drink the last drop; try a tumbler that is very low for its width, and you will find the water spilling easily. There is a subtle connection between the pleasures of the eye and the fitness of things. If you wish to draw a tumbler of pleasing proportion, you must first consider what proportions are the best for drinking purposes, and for the particular drinking purposes for which it is best to be used. A lemonade-glass may well be of different proportion from that of a water-glass.





Page 7. REPRESENTATION.—Group of Models or Familiar Objects.

Object: To draw the silhouette of the group twice, to indicate the inner lines of the group in the second drawing.

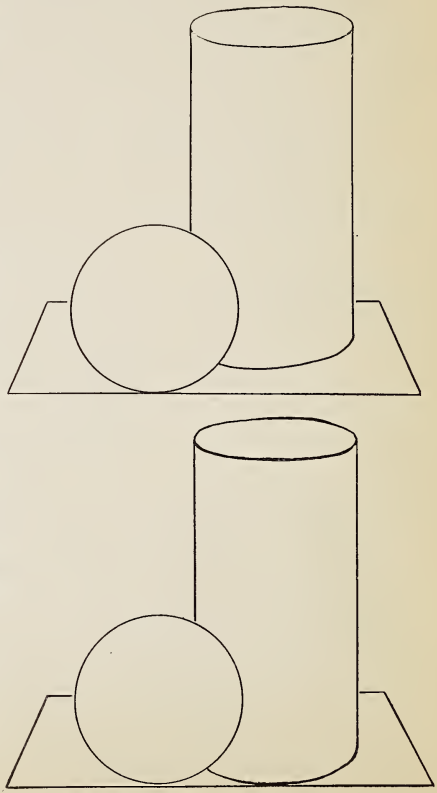
Preparation for the Lesson.—Teachers are referred to general directions and to lessons for page 5 for arrangement of the models.

It will be well to place the groups on paper, as directed for the cube of Exercise 6.

The pupil need not draw this paper, but the front edge lightly sketched will help to keep the lower outlines of the group correct. So often the groups are drawn that two objects appear to occupy the same space.

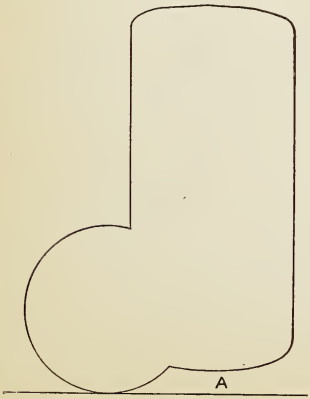
It is impossible for the sphere and the cylinder both to rest on that front edge of the paper. The space between the cylinder and the horizontal edge will be seen, and the child will be asked to draw that space.

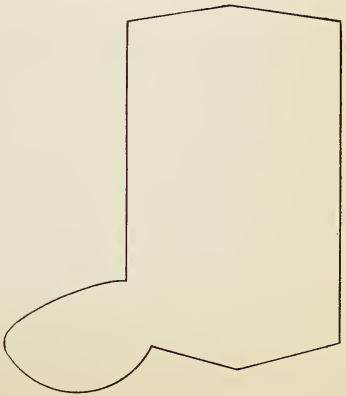
Beginners often draw the lower edge of the cylinder as a straight line. Place the cylinder on such a line and the curve is seen.



Suggestions for the Pupils.—Ask the children to hold their pencils horizontally and at arm's length, so as to coincide with the front edge of the paper. Ask what part of the group seems to touch the pencil, and call that the lowest point. Next get its location in the group, central, to the right or to the left of the centre. Place a short stroke on the paper where they wish that lowest part to be drawn, and through it draw the front edge of the guide paper. In the same way find, by gradually lowering the horizontal pencils, what we call the highest point and its location. Indicate where this ought to be drawn on the paper by a short light stroke. Next, if that is the whole height, how wide does it look? and indicate with two light strokes.

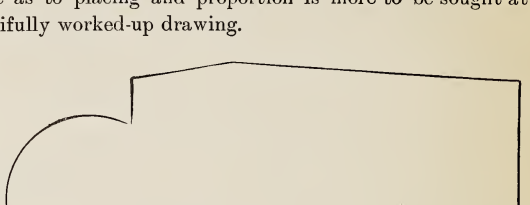
Trace the silhouette in the air. Speak of the group as one object, irregular in form, and try to lead the pupil to see the whole.





In this particular group watch for the space *A* and that verticals remain vertical for the profile of the cylinder. The drawing of the circle and the ellipses can be strengthened by short drill exercises. In putting in the inner lines, the whole circle and the whole ellipse can be drawn with one sweep, thus correcting the shape of them in the outline. Bear in mind, however, that the truth of the silhouette as to placing and proportion is more to be sought at this stage than a beautifully worked-up drawing.

It might be well to keep to the silhouette entirely, using the time to draw several groups, until the placing of a few strokes and the mere outline impresses itself as the only way to begin.



These suggestions should be carried out for Familiar Objects, also for the succeeding exercises on Representation.

"The whole before the part"

EXERCISE VII. A.—Familiar Objects: Form, Appearance.

Lead the children to select pleasing objects, to make sketches of them singly or grouped, to draw them in the drawing-book, studying the various examples of rendering.

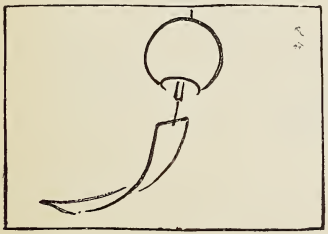
Selection.—One of the most important considerations in planning for a picture is the selection of the objects that shall enter into its composition. An artist is first of all a selector. No matter how beautiful an object may be in itself, if there is not a harmonious relation between it and the other objects chosen, the picture will lack in that most essential quality—unity. A child expressed this thought by saying there was no "belongness" to the objects, when shown a drawing of a base-ball and a tall, delicate vase; while another child, sensitive and impressionable, shivered slightly, and said the vase would be afraid.

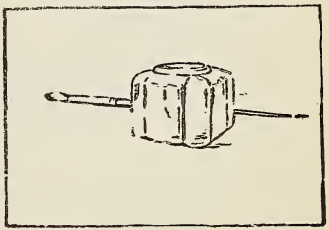
Preparation for the Lesson.—Request the children to bring simple objects, for which they care, to serve as models for the drawing lesson. They are usually glad to do this, and generally a comparison of objects, and an exchange with some classmate, will result in a number of harmonious and attractive groups. See **Grouping**, page 13, and **Placing**, page 15.

According to the judgment of the teacher, and considering the skill of the individual pupil, and the objects to be drawn, the space on the drawing-book page may be devoted to the drawing of one, two, or four separate objects, or to a group containing two or three objects. For the majority of the class, one good-sized object or a group will be the best. This part of the work should be decided upon and carefully planned before beginning the lesson, to prevent confusion and loss of time.

Let each child study a group that makes for him the most pleasing picture and make a sketch on practice paper. Have him observe the proportion of the width to the height of the group and indicate by light lines the space the group is to occupy. Suggest to the children the thought of space relations that will aid them in planning for the size of the drawing that will give the best appearance on the page.

Remember the divisions of space by the leading lines of the group, so that balance may be obtained without equality. For instance, notice how the

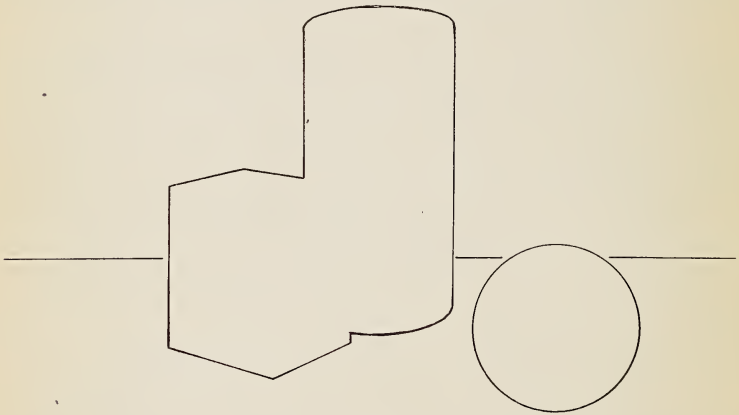




lantern and banner divide the oblong into two spaces which correspond somewhat to each other, but which are not equal. Notice also the division of the oblong by the inkstand from right to left and by the brush from top to bottom. The inkstand is at the left of and above the centre—the brush lying turned

divides the oblong pleasantly without the monotony which equal spaces give to a pictorial composition.

Recall to the children the simplicity of rendering in the various examples they have studied. If possible, show them good simple drawings of similar objects, and direct their attention to the few touches that express texture, and lead them to see how all non-essentials are eliminated from such drawings. Show them, too, what is meant by values. Lead them to see that the principal object may well be expressed by rendering it with greater emphasis than the secondary objects, and that the nearer objects are shown by clearer or stronger lines than those farther away.



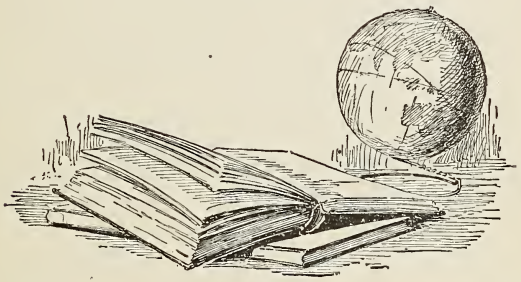
Blocking-in, or expressing the general outlines quickly and simply. (See page 13.) The general size and proportion of the group as a whole can be first lightly indicated, and then the individual objects in the group, using the least number of lines that will express the height and width, and the most essential parts of the outline.

Familiar Objects.—Too often it is felt that something quite novel and unusual must be presented in order to gain the element of beauty.

The beauty of familiar objects often requires an interpreter, a truth that Browning expresses through Fra Lippo Lippi,—

> "We're made so that we love
> First when we see them painted, things we have passed
> Perhaps a hundred times, nor cared to see."

Lead the children to see the beauty of familiar things, remembering that "the eye sees no more than the mind will allow, and bodily vision must be supplemented by mental to be of any real value." Eugene Field's sketch, "Franz Abt," tells of the gradual opening of the young composer's mind to the beauty of the familiar roses and the everyday song of the swallows. Many of Whittier's poems, and especially "Snow Bound," are full of the beauty of homely things.

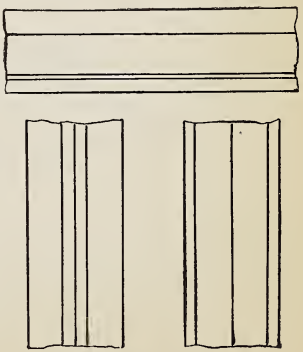


Page 8. DECORATION.—Good Arrangement. Beautiful Spaces.

Let the pupils consider the size of the space on the drawing-book page, and plan for the size of the two squares that are to be drawn on the page. The thought of space relations must come in even in this preliminary planning. The size of the squares to look well in the space, the width of the margin about them, and the relative width of the space between them, must receive thoughtful consideration. Every drawing exercise should include such study of space relations.

Show simple plaids in ginghams or other textiles. Let pupils draw on practice paper squares of the size decided upon for the drawing-book page. Lead them to think how they would arrange lines in these squares to make a pleasing division of the space, using two horizontal and two vertical lines. Let them express these thoughts by drawing first on practice paper with pencil or with brush, then in the drawing-book. Encourage individual work. The exercise aims to find the child's own feeling for the underlying principle of beauty in the arrangement, be it ever so crudely expressed.

If the exercise consists of the arrangement and copying of a verse, lead the children to think carefully before they begin to work. Preliminary experiment, on practice paper the same size as the page, will be helpful.



Simple Mouldings.

Space relation in regard to the arrangement of lines may be considered. The casements of windows, the frames of doors, the frames of blackboards show application of spacing in parallel lines, the variety essential to beauty being produced by variation of spaces, some being wide, others narrow. A good exercise for practice paper is the arrangement of several hori-

zontal or several vertical lines to make pleasing space relations. Such arrangements are here illustrated. The irregular lines at the ends of the illustrations indicate that only a part of a moulding is represented.

The arrangement of lines in **opposition** (that is, running in directions at right angles to each other—horizontal and vertical), as in Figs. 1 and 2 on this and the next page, will bring in a new study of space relations. The lines may be placed evenly, at equal distances, producing **symmetry,** space correspondence,—or unevenly, producing **balance** of unequal parts, space variation.

The figures to be filled in this exercise are two squares of suitable size for the drawing-book page. The object of the exercise is to divide the squares into beautiful spaces by beautiful lines. Such exercises are what Mr. Arthur W. Dow calls, in an article in *The Pratt Institute Monthly*, for December, 1896, "*exercises of the mind*, pure abstractions, having no reference to use, and not being *representations* of anything." The process is creative, and the results are expressions of individual ideas of beauty—art expressions. When the pupil sees that beauty may be produced by simple arrangements of lines, then he learns to see and to apply the arrangements in mouldings, in plaids, in rectangular designs for boxes, for book covers, etc., in panelling, in landscape.

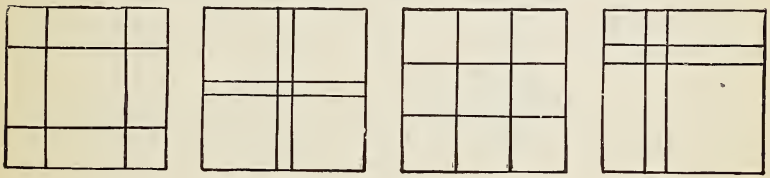


FIG. 1.

Illustrations in the Manual.—The use of single lines in an arrangement is shown in Figs. 1 and 2. The illustrations *a*, *b*, and *c*, Fig. 1, show space correspondence, the others show space variation. Space variation is produced by unequal spacing. Study the illustrations in Fig. 2 and in *d*, Fig. 1,—the spaces are greatly varied. In *a*, *b*, *c*, and *d*, Fig. 2, the spaces are more varied than in the other; look at any one of these—no two spaces are alike in the square. It will be noticed that the designs in Figs. 1 and 2 are

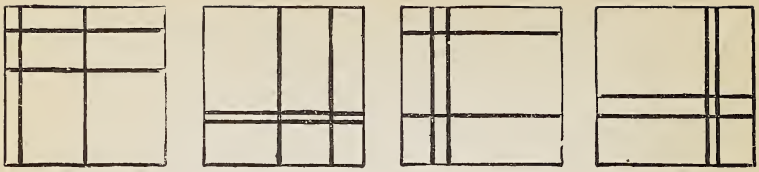


FIG. 2.

all produced by arrangements of two parallel horizontal and two parallel vertical lines, placed at different distances from each other and from the sides of the square, thus varying the effect.

Preparation for the Lesson.—Give the children an opportunity to arrange for pleasing divisions of space, using from three to five horizontal or from three to five vertical lines. This will give them the thought of beauty as derived from a few straight lines, giving a harmonious distribution of space.

Now let them consider the size of the space on the drawing-book page, and plan for the size of the two squares that are to be drawn on the page. After the exercise the different drawings may be placed where the children can see them; the drawings may be discussed by the children as a class exercise. They will generally arrive at a just conclusion as to which are the most pleasing.

Spirit of the Lesson.—The lesson should develop a feeling for beauty in simplicity,—beauty of simple arrangements, simple fabrics, simple uses. The children will like to think of the child in Whittier's "School Days," and that the gingham apron she wore might have been, in design, quite like some of the arrangements they have drawn.

Page 9. DECORATION.—Space Division. Plaids

Line and Color Arrangements.—The tartan plaids, given in Figs. 1 and 2 below, show an application, in designs for textile fabrics, which follows

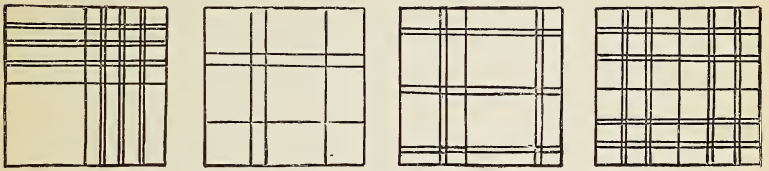


FIG. 1.

naturally and easily from the simple line arrangements produced in the preceding exercise. The designs give line arrangements with space variation, the element of color adding to the variety and the beauty of the design represented in Fig. 2.

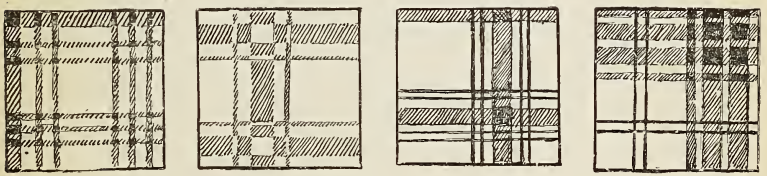


FIG. 2.

Preparation for the Lesson.—Show the children the illustrations in the Manual. They will be interested in the thought of the original use of these plaided cloths as the distinctive dress of the Highlanders of Scotland, each clan having its own particular tartan to which was given the name of the clan. Occasionally small boxes or other articles decorated with Scotch plaids can be bought. Show them also examples of plaids in woven or printed fabrics, so that they may see how others have expressed the thought of line arrangements.

The children may plan for two or six squares, to be well placed on the drawing-book page. Lead them to make a quick sketch of the squares on practice paper, giving thoughtful consideration to their size and to the intervening and surrounding spaces.

Lead them to the thought of pleasing designs for these squares. Some other arrangement than a check should be chosen. A check is the arrangement of equal squares and is the simplest form of a plaid. The illustrations in the Manual and the examples presented may serve as suggestions for the children. Lead them also to think of the position in the square of the leading lines in the design. If the spaces are too nearly of the same size, the design may be commonplace. Let them sketch the designs in the squares on their practice paper, trying more than one if they desire, then draw in the book with clear lines.

Color.—The use of color adds interest and lends a new charm to the exercise. Those teachers who find water-color available will welcome another opportunity to use the brush. The illustrations in the Manual afford excellent suggestions for the use of color in the designs. See **Water Colors,** page 37.

Spirit of the Lesson.—It will be found that children often manifest a deeper interest in work of which they can see some practical outcome. That the design which they create might be used in some department of industry will appeal directly to this desire for usefulness. They will at once perceive, too, the desirability of adding the element of beauty, as a design that is not pleasing would not be chosen as a pattern.

A song always enlivens work. Scotch ballads may be looked up. "The Campbells are coming" is a fine accompaniment to the Campbell plaid. The Scotch poets make many allusions to the tartans and plaids :

> "Plaids were there that only Sabbath
> Saw, and wives' best tartan hoods,
> . . . . . .
> Many-hued, home-woven tartans,
> Brightening these grave solitudes."

The teachers will find much interesting information in a little book called "The Scottish Clans and their Tartans," published by Chas. Scribner's Sons. This book contains nearly one hundred colored illustrations of plaids.

Page 10. DECORATION.—Examples for Study.

The examples on the upper half of the page are of ancient origin. The line borders tell of the fine sense of beauty in space relations among Egyptian and Chinese artists centuries ago. The bit of ornament between the borders shows Egyptian love of symbolism. It means the sacred river Nile. The zigzag lines were made to suggest the rolling waters of the stream, and out of these waters rose the buds and blossoms of the lotus, a plant resembling our water-lily. To the Egyptians it was a reminder of their own immortality, growing as it did out of the mud of their mysterious river.

The tile designs, in the lower corners of the page, are studies of squares and circles, arranged with thought for beautiful proportions and beautiful contrasts of light and dark. The other tile designs show arrangements of squares within squares, with a suggestion of the effects of varying dark and light. The surface covering shows a well-considered repetition of one figure, covering the ground without crowding. It was designed from a plant-form.

Let there be an **Egyptian** week, as being the special period of study selected for this page, and a conversational lesson given. Let the teacher collect anything along these lines, and children also be encouraged to bring pictures, etc., bearing upon this era. If there is a good talk upon this subject a much greater amount of enthusiasm will be engendered in the working out of page 11.

Page 11. DECORATION.—Optional Lesson from Page 10.

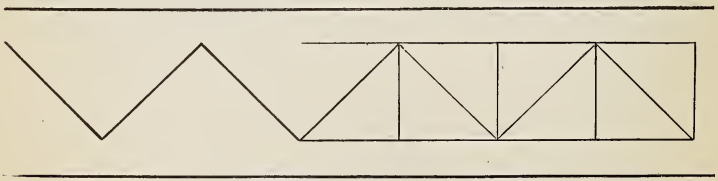
Drill Exercise.—*No erasing.*

Suggestions for the Teacher.—The drill exercises, page 28, are to be taken from time to time to prepare for this exercise, if it is to be taken as a drill. Even if color is used the pattern might first be profitably drawn by this method; all pupils drawing the same line at the same time to the count of the teacher. All four borders might be done in this way before the pupil chooses the one he wishes to put in the book. In order to get the border a suitable size for the drawing-book page, the following should be dictated.

Suggestions for the Pupils.—Consider the space on the page below the printing.

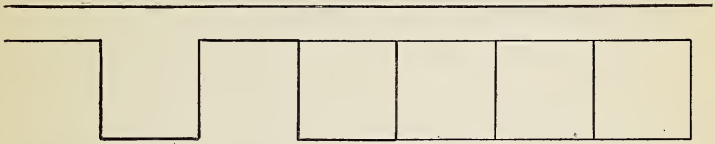
Egyptian Border.

Place at the left a short stroke that will bisect the space from the printing to the lower edge of the paper. Place above and below this point strokes that will bisect the upper and lower halves of this space. From each of these last two strokes draw, as a drill exercise, horizontals extending to within one half edge of the right and left margins of the page.



Draw by drill exercise a vertical line, connecting the left-hand ends of these two horizontals. Mark off on the upper horizontal line from this vertical a distance equal to the distance between the two horizontals. From this point let fall a vertical to the lower horizontal, the teacher counting for each line. In the same manner draw verticals that will make a line of squares.

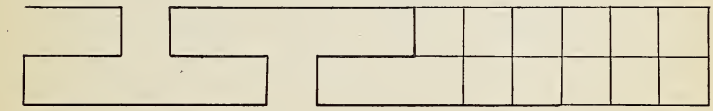
In these place the diagonals to form the Egyptian Border. Add, by drill movement, the two marginal lines always at right angles to the line to be drawn. See General Directions, page 26.



To draw light lines is one important feature of this exercise. If the lines are drawn properly no erasing will be required, the light construction lines will not mar the effect. Outline to the count of the teacher, who should watch the way the pencil is held.

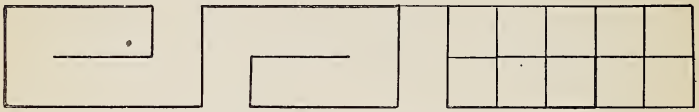
The Chinese and second Greek border will be dictated as drills also. Bisect the page as before, and from the point of bisection draw a very light horizontal, leaving half-inch margins.

Trisect the upper and lower halves of the space, and from the point of trisection nearest the central line draw light horizontals. By verticals divide into small squares, and outline for the Greek border on the upper horizontal along the top of two squares—down one, back two, down one, along five, up



one, back two, up one, along five, and so on. Better still, dictate all the horizontals and then all the verticals, as on the upper horizontal—along two, leave one, along five, leave one, etc. In either case secure the correct position of pencil and have no erasing. Add marginal lines at a suitable distance.

If the chosen border is drawn in pencil, a pleasing effect of color may be added by what is called "pencil-painting;" *i.e.*, by filling in either the figures or the background behind them with the pencil in a manner similar to that shown in the lower figures on page 10 of the drawing-book; better still, let the (oblique) lines run together softly, producing an even tone of gray.



Hints on water-color, if work in that medium can be undertaken for this exercise, may be found on page 37.

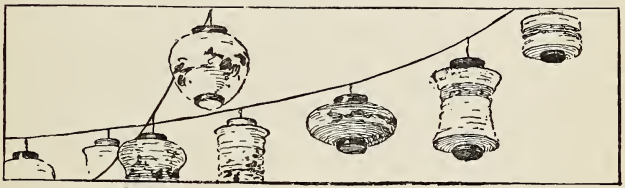
This Exercise XI., page 11, may be carried out in color, and as preliminary work a few exercises are suggested here, especially if color has not been previously used.

For preparation read page 36, and carefully work out "How to Use Water-Color," four paragraphs. First of all draw an oblong upon a sheet of manilla paper and lay on a wash of either of the colors, red, blue, or yellow—a tint at first, the aim being to produce an even tone.

Then, again, take another sheet of manilla paper. Place it longwise from left to right. Let the children bisect it by a slight stroke line. (Do not allow them to draw a line the whole length down the middle of the page, thus distracting from the artistic arrangement when finished.) Draw freehand in the left space a circle, in the right a square, making sure the margins and space are equal (and not as the child will do, if not guided, make the space between double that of the side margins); then fill both figures with color, one row of children taking red, another blue, and a third yellow. When dry give a second coat to one of the figures. This may be varied by applying different colors in the different figures, or by using different figures, as a quatrefoil and a Greek cross.

Another exercise previous to page 11 would be well: to match the normal colors, red, orange, yellow, green, blue and violet of the Prang spectrum color chart. (For material teachers are referred to the Prang Educational Co.) This may be carried out by drawing an oblong upon paper, marking it off into six divisions, between each division leaving a very small space, so that two wet colors may not touch, then filling each space with a color by repeated washes until the normal tone is reached.

Then work out Exercise XI. Follow previous instructions (page 100) for the drawing upon the page, then within the marginal lines fill with a wash of red, blue or yellow tint, and when dry give a second wash of the same color to the design, which will make two shades when completed.



Page 12. REPRESENTATION.—Pose Drawing, Nature Studies, Action, Proportion.

Pose Drawing.—In spontaneous drawing by young children, the figure is generally the principal thought. In leading them to draw from the pose, the teacher will find at once a sympathetic feeling for the subject, giving bright, ready mental action. Life in all its forms possesses a charm for the child, and of all living things a child is nearest and most fascinating to other children.

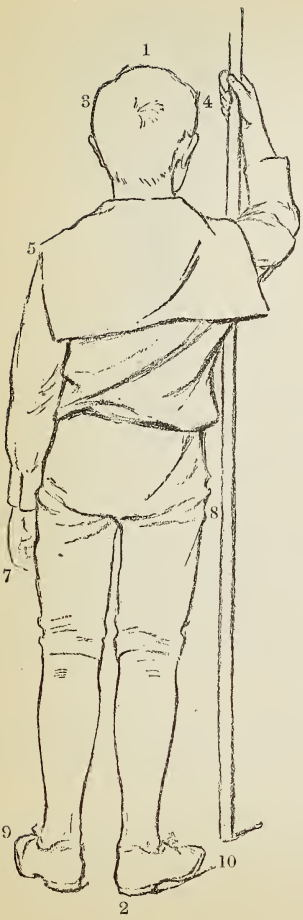
The figure, moreover, has so great variety and so many possibilities,—life, action, and the changing attitude to fit the varying action. With young children every pose drawing should be the telling of a story, involving action if possible. It makes the study more interesting, and the drawing more expressive, to have the pose suggest some definite idea. Thus, a boy might be carrying a water bucket, holding a fishing-rod, kneeling as if in position for marble playing. A girl might be with a book, a broom, a picnic-basket, etc.

Arranging of the Pose.—Select a child simply dressed. Arrange for a simple, graceful pose that can be maintained without weariness for the required time. Give frequent rest. As one aim is to lead the children to avoid details, arrange for the face to be turned away. If, however, the child faces the class, it will be better to have head merely blocked, without any details as to features.

There are different methods of carrying out the lesson for page 12 of the drawing-book. As preparation work, different poses may be carried out on practice paper. One teacher may simply ask for it in the outline of the shape filled by the figure, another for a silhouette with brush and ink. But in the final effort of placing in the book, aim to make the drawing still more full of life, but keep it simple and sketchy.

Example of method of carrying out an exercise in detail for page 12: Place paper and pencil upon each desk in readiness. After pose is arranged, ask the pupils how paper should be placed for work. Answer should be, seeing the pose is upright, longwise from front to back, or short edge parallel to front edge of desk—but never accept the answer as being vertical position for the paper.

Concentrate entire attention upon pose ; study mentally all particulars for a few moments. Then, with eyes closed on the part of the children,



receive from them answers to the questions as to facts of pose :— What is Johnny doing? Where is his right hand? Where his left? etc. Then giving order for pencils in hand, proceed to work.

1st. Notice proportion.

2nd. Calculate how it will look best upon the paper, and denote its longest position by little stroke lines, as 1 and 2. This will also serve to place it upon the paper as to size. And guard against placing the pose all to one side, making it too small to look well upon the sheet, or too large when it would appear overcrowded.

3rd. Calculate widths from left to right, as 3, 4—5, 6—7, 8—and 9, 10.

4th. Or other stroke lines, as for length of arms, etc.

5th. Trace in the air the outline formed all down the left side.

6th. Then draw upon the paper that same tracing.

7th. Repeat right side. Remember there is a tendency to draw what is in the mind rather than what is actually seen before the eye. To obviate this, command a careful watching of the object while drawing, allowing only an occasional looking down at the pencil point, sufficient to guide all going right upon the paper.

(Note also, in tracing in the air about a pose or any other object, to direct pencil point to the left in following around, and not at the object, as children love to do.)

8th. Have careful study given to the apparent shape of the feet. Pupils will often find them appearing very different from feet seen in profile, but the only way to make them look real is to draw them as they actually appear. A good lesson might be given as preparation, of feet drawn in different poses.

9th. Having sketched in very lightly so that corrections may easily be made, line in with expression.

Direct pupils' study of the illustration so that they may see what is most important and helpful. Notice how few lines the artist used, yet these few tell the whole story. See how the principal wrinkles in shirt and trousers express the muscular action ; those in the back show the upward pull of the right arm ; those in the right elbow suggest the bending of the right arm; those at thigh and at knee show that the figure is not a stiff china doll, but a live boy who sits and stands at will. (Avoid choosing for a model a boy in a perfectly new and unwrinkled suit. It will be difficult to avoid the china-doll appearance. Clothes showing honest, legitimate wear—*not* abuse—have much more character, from the artistic point of view.) Notice the slight indications of hair. Very few lines are used, yet the effect is that of a proper growth of short hair.

In this connection the young child will naturally wish to fill the head full of lines as though he could count every hair. Lead him to see he will fill fuller by leaving out. Only touching in a few details so as to show a curl, a braid, or a bow of ribbon is sufficient.*

* To assist the children to see that filled-in hair is superfluous, it is a very good way for the teacher to draw a head on the blackboard, either boy's or girl's, filling it in as the child will naturally do (Fig. 1) ; then rub out as indicated (Fig. 2), where the high light would strike it strongest. And they will very promptly tell you which looks fullest and best—most artistic.

Fig. 1.

Fig. 2.

Be careful not to *teach too much*; rather give pupils opportunity to work. The teacher may learn much of them by watching their drawings, to see how they express themselves. Encourage quick sketching. Children can realize a pose better if allowed sometimes to take it themselves. First efforts will be crude, but should enable pupils to do better on a second attempt.

Page 13. REPRESENTATION.—Imaginative Drawing.

Let pupils make drawings to illustrate some familiar story or verse. The figure in the corner of the page, for example, represents Little Red Riding Hood on the way to her grandmother's.

This lesson might be carried on by copying the figure upon the page and adding imaginary surroundings, the woods and the distant house, shown to be far away by their size and faintness.

Added Interest.—That reader of children's hearts, Charles Dickens, whose own heart never grew old, tells us of his memory of Little Red Riding Hood: "She was my first love. I felt that if I could have married Little Red Riding Hood I should have known perfect bliss. But it was not to be, and there was nothing for it but to look out the wolf in the Noah's Ark there, and put him late in the procession on the table as a monster who was to be degraded." The illustration in the drawing-book may suggest that other Red Riding Hood in Whittier's pretty poem. The children will like to think of her as having crumbs in the basket for the birds.

FIG. 1.

FIG. 2.

FIG. 3.

This series of sketches illustrates methods of dealing with the subject. No. 1 shows the blocking-in, the drawing in silhouette, in which condition it would be well to collect the papers and mark them. This silhouetting is one of the first and hardest conditions to be overtaken by the teacher with young children. By insisting upon the drawing being done this way (silhouetted) the subject is grasped as a whole, and not as to details. No. 2 shows a variety and change of medium, being filled in with ink, which should be encouraged. And No. 3 represents the figure complete in lead pencil, with sufficient details added.

Page 14. CONSTRUCTION.—Pattern Drawing: Cube and Cubic Objects. Freehand.

Lead the children to make sketches of patterns of the cube and cubic objects, to learn the manner of drawing and to draw a pattern of the model or of a similar object in the drawing-book.

In cutting the pattern for the sphere, the two pieces which fit together to cover a ball are best made from leather, for practical use in playing a game. If some pupils wish to make spherical pin-cushions they will find the same pattern available used in woollen or silk. (Allow extra for the turned-in seams.)

The cube pattern can be creased and glued to make a hollow model of paper. Cut only on the broad black lines. Crease on the narrower lines. When cut and creased the pattern will be found to be provided with "laps" to be pasted or glued, holding the form steadily in place. In pasting, push the laps ***inside*** *the form so that they will not be in sight when the cube is finished.*

Patterns.—Lead the children to tell you about patterns, the different kinds of patterns, and why they are necessary. They will know of the paper patterns to be used as guides in the cutting of garments; perhaps some child can tell you of the manner in which the tin is cut to be used in making basins, pans, pails, etc., or it may be quite possible in some localities that a child who has visited a foundry may tell the class of the kind of patterns used in casting metals.

Development of the Surface of the Cube.—Give a quick review of the model, particularly as to the number, kind, and shape of faces, and to the relative position of the faces. A flat pattern of a solid represents the surface as if it were unfolded and spread out flat. This is very easily presented to the children by wrapping a paper about the model, creasing each of the six faces in regular order, associating each square creased with a particular face of the cube; when the paper is unfolded the surface of the cube will be seen creased in the paper. The children are delighted to do this, and if scissors are provided, may cut out the surface; if not, the surface may be carefully torn

out. By fitting this surface when cut out, over the cube, the necessity and the location of laps may be brought out.

Another way is to let them work out the pattern from the cube. They can do this at the blackboard, one child drawing one face, others adding other faces until the pattern is complete; or they may all work it out on practice paper at their seats. Then lead them to think of the pattern as a whole, drawn with long lines.

Suggestions for Pupils.—Sketch the pattern of a cube on practice paper, beginning with the long horizontal lines. Then decide upon the size of the drawing best adapted to the space on the drawing-book page. Sketch the pattern lightly in the drawing-book, beginning with the long horizontal lines, taking great care to plan correctly as to proportion, and to place it so as to look well on the page. Then draw with somewhat stronger lines, striving for a good general appearance of the pattern when completed.

Children are always interested in the various forms of pasteboard boxes, and probably several in a class can give ideas of how some form of box of this kind is made, since so many pasteboard and flexible manilla paper boxes come into the household. Ask the children to bring as many kinds of cubic boxes as they can. These will not only stimulate the children to observe, but it will also serve to bring a collection of boxes into the schoolroom for future use.

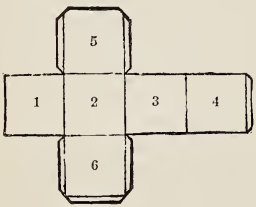


FIG. 4.

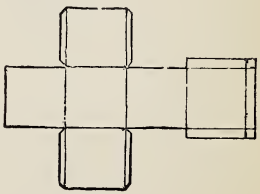


FIG. 5.

Using the pattern of the cube as the basis, the children may plan for a cubic box with cover. The pattern for the cover may be cut with the pattern for the box, or it may be a separate cover. Some may wish to make boxes not so high as a cube, but having a square base like a cube—this will present a

little different problem which the children will take pleasure in solving. Others may wish to make an open box with a handle instead of a cover. The pattern for the box, Fig. 5, is easily gained from the pattern of the cube by a careful study for the placing of the laps and for the pasting. It is well to have the laps on the face intended for the cover somewhat deeper than is necessary in the body of the box.

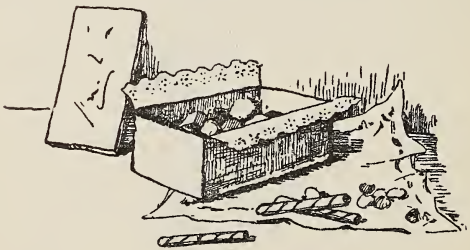
This exercise will give added pleasure to the children if the box can be made from material strong enough to hold some of the smaller articles that are needed in their school work. Many teachers permit the children to make such boxes for gifts to their friends, using attractive materials, and encourage them to the utmost nicety of finish, because of their purpose.

Page 15. CONSTRUCTION.—Proportion.

The use of the ruler here is only for those schools where the manual training has given the ruler and compasses into the hand of the pupil. In all other cases, keep to the free-arm movement.

After having had the class measure the proposed objects, lead them to understand the terms 1×1, 1×2, 2×1, 2×3, and others, such as $1 \times 1\frac{1}{2}$, as illustrated on the page, and then apply these terms to the objects that were previously measured. Let them state first the size and then the proportion.

Drawing oblongs of certain given proportions as a drill exercise might profitably fill the page.



Page 16. CONSTRUCTION.—Pattern Drawing.

Object: To study the square prism; to work out the pattern; to draw the pattern; to make a hollow square prism.

The Square Prism.—The square prism is a very regular model. Like the cylinder, it has always two of its dimensions equal, and the third variable. Place the cylinder and the square prism upright. You will see that the cylinder measures the same from front to back as from left to right. The case is the same with the square prism.

All type forms except the sphere, cube, and hemisphere may vary in proportion and yet keep their form characteristics. The sphere and cube must each, by their form-nature, have their three dimensions equal. The proportion, 1 to 2, is the simplest. It is easily comprehended and easily expressed. The models of the cylinder and the square prism are in this proportion. By the use of this proportion and of the inch as a standard of measurement, the cylinder and square prism and the other models become standards, and present two definite measurements in each size of the models. The smaller size gives one inch and two inches, the next size gives two inches and four inches, the largest size gives four inches and eight inches. Thus the children may gain, while handling the models, the most definite notions of absolute size. It would be wrong, however, to conclude that cylinders and square prisms must be always in this proportion.

But while the two models agree in having two of their dimensions equal and the third variable, they differ in the number and shape of faces or of parts of faces, visible. The cylinder has three faces,—two plane and one curved; the square prism has six faces, all of which are plane. Two faces are square and four are oblong. The square prism presents an excellent opportunity for number lessons. The whole number of faces, the number of square faces, the number of oblong faces, the proportion of the square faces to the oblong faces, of the edges of an oblong face to each other, etc., will furnish much number work.

The Pattern.—A pattern of a square prism is now desired. The pattern of a square prism can be developed by creasing the faces in paper.

In this exercise the pupils can join. It is better, as far as possible, to have the pupils develop all exercises first through their own activities, as the work then lays stronger hold of them than if they simply observe what you do.

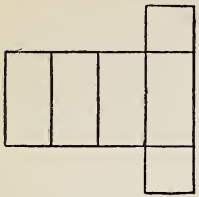


FIG. 1.

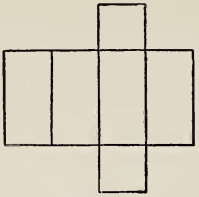


FIG. 2.

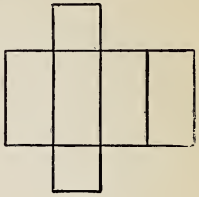


FIG. 3.

The pattern may also be developed before a class by placing an oblong face of the model upright against the blackboard and rolling it from face to face until each of the four oblong faces has touched the board, then turning it up till the upper square face has touched the board, then down until the lower square face has touched the board (see Fig. 1). In making the real pattern, the square faces may join any one of the oblong faces. In making a pattern, however, as in all form work, it is best to seek always the most pleasing arrangement of details. Symmetry must guide us here. A pattern like Fig. 2 or Fig. 3 is more agreeable than one like Fig. 1, as it balances better. In Fig. 1 the apparent weight is thrown on one end of the pattern, while in Figs. 2 and 3 the weight is more evenly distributed. A pattern is sometimes according to the extent of material. If you had only a long narrow piece of paper, the pattern of the square prism might be made as in Fig. 4.

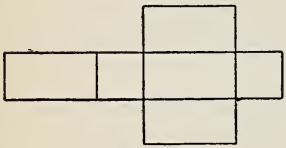


FIG. 4.

Advance in Thought.—Following the lessons on the pattern of the cube and square prism, the children will doubtless be able now to tell you of a more extended use of patterns. Perhaps for this lesson it will be possible to show to the class some examples of solid patterns; this will be of great interest, as ordinarily they are acquainted with the flat pattern only. Let the children name various manufactures in which patterns, flat or solid, are used.

A list of these might be placed upon the blackboard and added to, as the children learn of others. Such a device will stimulate their interest and give them a clearer understanding of the value of their own work by realizing its connection with the world of industry.

The square prism form is so much more frequently found in boxes than the cube form, that the minds of the children can easily be led out into this new field of creative activity. A good collection of boxes made by the children will be of great value in this work. Boxes that can be "made up," as the boxes for lace, etc., from the dry-goods store, are interesting as to the ingenuity exercised in making them fasten securely, and will arouse the creative spirit of the children.

Drawing the Pattern.—Let the children make a quick sketch of the pattern the size of the model. They may then quickly make a sketch of the pattern of the same proportion, but of the size required for the drawing-book page, planning for the size that the drawing must be, to give a good appearance in the space and drawing the long horizontal lines first. Accustom the children to make quick sketches in which the leading thought is expressed, and little attention given to minor points. Then the pattern may be sketched in the drawing-book with greater accuracy, beginning with the long horizontal lines. The pattern may then be drawn in somewhat stronger lines.

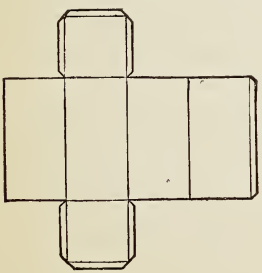


FIG. 1.

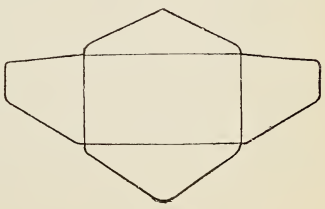


FIG. 2.

Exercise of the Imagination.—A very important part of the child's education lies in the proper stimulation and skilful direction of the imagination. One has only to watch children in their play to realize how largely the

imagination influences them. How often one hears the words, "Let's make believe ——," "Let's pretend ——." This pleasure of the imagination is a legitimate one, and may be rightfully added to their daily work. They will like to imagine that they are workmen planning for a pattern from which the objects are to be made. One may be the foreman of the shop, and explain to his helpers the large order he has just received which will require the workmen to put forth their best efforts.

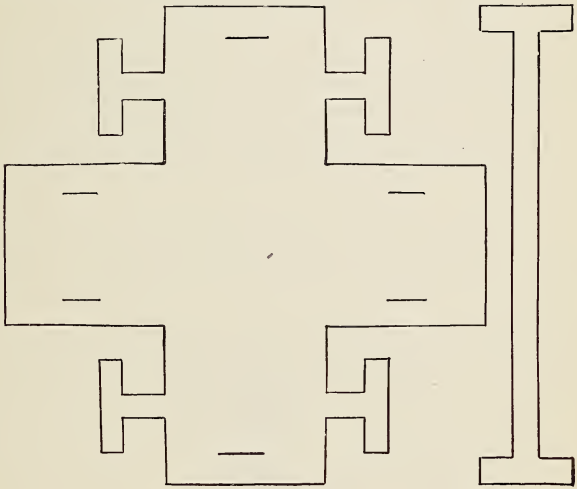
Spirit of the Lesson.—Lead the children to feel that they are learning in this exercise to do something that will be very useful and that all their work must be done in a spirit of honor and truth, in that they shall give to it their "whole skill and love and strength." And the teacher will bear in mind that if this is truly done, the best value of the work—"the inner value of honest labor honestly achieved"—is gained by all, even though the outer results may widely differ.

Additional Exercise.—The value of these exercises can be shown to the children by leading them to realize that every box they have brought in is an expression of a definite idea, and that many show separate inventions which have resulted in a substantial return to the inventor, as well as a general convenience to all who use the articles. Lead the children to suggest different practical articles that could be made, using the pattern of the square prism as the basis. Let them plan quite thoroughly for the making of such an article, and draw the pattern. Encourage them to carry out the making at home, if no opportunity for such effort can be made in school.

The pattern for a tall box, with a separate cover, may be planned; if made of suitable material, this will be useful as a receptacle for pencils, penholders, etc. The pattern for a trunk-like box, with an attached cover, may be produced by an application of the plan used in making the pattern of the cubic box.

Page 17. CONSTRUCTION.—Optional Exercise.

The cubic basket illustrated on the drawing-book page can be easily and neatly made from a sheet of manilla practice paper or a leaf of note paper, and may serve as text and starting point for the exercise of individual imagination in creating new forms.



A pattern for this basket is given here. The short horizontal lines within the outline represent simple slits cut with a knife, or with one scissors-blade used like a knife. If the pattern is drawn on a piece of 6 x 9 practice paper the basket itself will require a portion 6 x 6 ; the handle should be cut out of the remaining piece. Note that each of the four sides should be two inches square, a base also two inches square occupying the centre of the pattern. Each arm, including the cross-piece at its extremity, should extend about three-quarters of an inch from the edge of the side out of which it reaches.

After drawing and cutting out the flat sheet, *all in one piece*, crease the base-line of each of the four sides and bring the sides up at right angles with the bottom of the basket. Next, fold the little cross-pieces at the ends of the arms over, as one folds his own arms across his breast. This makes it possible for each arm, when drawn around the nearest corner, to be pushed through the slit found in the adjoining side. Let it be pushed through *from the outside* towards the inside (see illustration). After it is through, unfold the cross-piece at its extremity to keep it from slipping back. Do the same with the other three arms.

The two remaining horizontal slits are for the insertion of the two ends of the handle. Reduce the width of the handle-ends temporarily by doubling their cross-pieces back as in the case of the basket. Push the handle-ends through *from the outside* toward the inside, and unfold the cross-pieces to retain the handle in place. The illustration shows the appearance of the completed basket.

The proportions of the basket are capable of much variation. When made of fairly tough paper it is a really convenient little receptacle for many sorts of trifles. Neatly made, it is appropriate for Christmas candies or for May-day flowers.

Children may like to take the baskets home and repeat the work in different materials. The more inventive will, perhaps, like to experiment until they succeed in making, after the same general plan, a box with a separate cover.

FIG. 3.

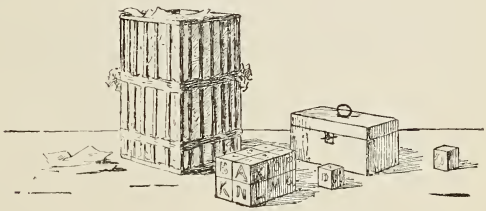
FIG. 4.

FIG. 5.

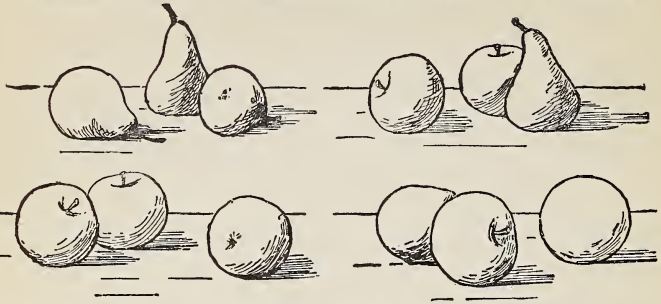
Envelopes can also be made. A very interesting lesson may be made by giving the children opportunity to decide on the proportion of the envelope for themselves.

The illustrations show the most common shapes of envelopes. They can be drawn upon the board and a conversation can be held about them to lead the children to think as to the desirability of one shape or another, as to convenience and as to pleasing space relations.

Having made the envelope, pupils will be interested to know something of the way in which envelopes are made by machinery. A machine first cuts out the blanks (the envelopes before they are folded) in the proper shape. Another machine folds the blanks, gums the bottom flap, and presses it on the side flaps. It then gums the top flap, dries the gum, folds the flap, counts the completed envelopes into bundles of twenty-five, delivers them from the machine, and records the whole number of envelopes delivered. It seems almost human, for it expresses in such a wonderful way the thought and will of the inventor. A machine is, as it were, thought and mental power materialized. A little time could also be given to the proper way of writing an address on a letter.

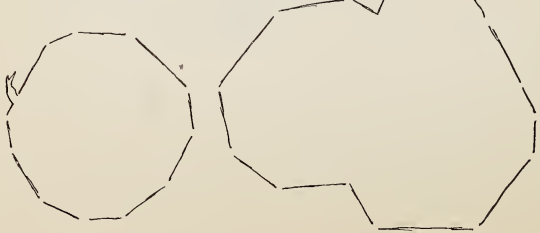


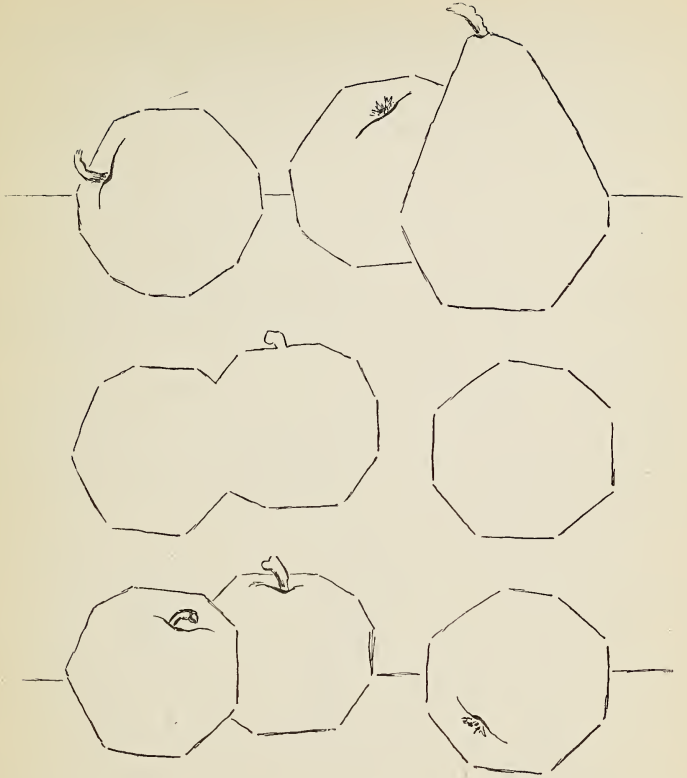
Pages 18 and 19. REPRESENTATION.—Grouping.



Very pleasing groups may be made of apples only, if other fruit cannot be readily obtained. The apples may be placed in a great variety of positions: the stem may show, the blossom may show, the axes may be inclined in various directions.

Blocking-in the Group.—Having studied the apple and the pear, which are likely to be components parts of the group, attention should be given to the group as a whole. Study the proportion of the width to the height, and block-in the whole group; then block-in each fruit. The blocking-in as a first stage will prove a great help in drawing the group. *See directions, page 13.*





To be developed.—Row, Group; place of principal object; objects not in a line; objects suited to each other; objects at rest; not all in same position; not all wholly visible; not of same height.

Suggestions for Arrangement of a Group by Pupils.—Let three pupils stand in a *row;* let three others stand in a group. What is the difference between the row and the group?

Place these three pears in a very straight, regular row; what can you tell about them? (*The pears are all in a straight line; they are at equal distances from each other; they stand up straight.*) What can you tell about their axes? (*Their axes are all very nearly vertical.*) Do they make a nice row? (*Not quite, because they are not quite even themselves.*) How can you arrange them to look better? (*I would mix them up a little and place them somewhat as though they were clustered together.*) How would they stand? (*I should not have them all stand; the best one might stand somewhere near the middle, and perhaps the others would be leaning up or lying down.*) You may place them in a group. How are the axes of the pears now? Have you placed them the same distance apart? Why did you not have them all stand? (*They would be too nearly of the same height.*) What have you tried to get in this group? (*I have tried to get variety, so that the group would not be tiresome.*) Why did you not place the pears far apart?

Drawing the Outlines of a Group.—Observation by Pupils.—Study the groups in the drawing-book. If you connected the bases of the objects in the figure, what kind of a figure would you have? Describe the position of the axes of the objects with relation to each other in each group.

Directions.—Having arranged a group, study the proportion of the width to the height of the group. Indicate by light verticals and horizontals the space to be occupied by the group, making it of a suitable size for the page and of the proper proportion. Block-in first the group as a whole, then the principal object in the group, and then the others. Draw the rest line, studying to place it well. Draw the curves over the blocking-in lines. Correct, erase wrong lines, and finish.

Page 20. REPRESENTATION.—Spring Flowers: Life and Growth.

Let the children gather and make sketches of spring flowers, choose and study their most beautiful aspect and draw them in the drawing-book, studying the examples.

Nature.—Drawing from the natural flower is always a pleasure to the children. They delight in the study of the natural form, and in the discovery of its wonderful laws of growth. The bright colors and sweet odors charm the senses, and the feeling for the life of the plant adds its never-failing interest. At this season it will be possible to provide every child with a flower as a model.

Illustration in the Drawing-Book.—It will add to the pleasure of the children to feel that other children care for the flowers. They will like to imagine that the children in the picture have been searching for flowers for the drawing lesson, and that their quest has been successful, as the illustration suggests. The two little figures will also give an idea to the teacher for additional work in drawing from the pose, when that work is taken up.

Preparation for the Lesson.—Have the pupils place the flowers in tumblers or bottles of water, arranging them so that they shall be not too far below the level of the eye, and far enough removed from the observer—at least two or three feet from the eye—

so that the attention may be given to the mass rather than to the details. It is not at all necessary that the child shall study the flower on his own desk; he may select the one that makes for him the most pleasing picture, and that may be several desks away from him. Recall former work in blocking-in, lead the children to observe leading lines, and to study the expression of growth. The Manual text, pages 12 and 13, will be helpful here.

Suggestions for Pupils.—On practice paper sketch the flower selected, using straight lines mainly. Compare your drawing with the flower by holding off at arm's length, noting particularly the direction of the stem, and the size and position of the blossom, and the leaves, if there are any. Are the flowers looking toward you, or are they looking up, or are they looking away?

Make another quick sketch on paper, by a few blocking-in lines to get the size of the entire mass, adapting it to the space on the drawing-book page, and expressing the directions of the leading lines (page 45, Book I.). Then draw quickly and lightly on the drawing-book page, trying to make your pencil show how delicately beautiful the flower is and that the stems and leaves are strong and full of life.

Pleasant Thoughts.—A line or two of verse concerning the flowers, and especially that showing companionship, will put new life into the whole lesson.

"Little white snowdrop, I pray you arise;
Bright yellow crocus, come open your eyes;
Sweet little violets, hid from the cold,
Put on your mantles of purple and gold!
Daffodils! daffodils! say, do you hear?
Summer is coming, and springtime is here!"

EMILY HUNTINGTON MILLER.

Wordsworth's beautiful poem on the daffodils is well known to all; Bryant speaks of this flower as "our doorside queen."

"I wonder what spendthrift chose to spill
Such bright gold under my window-sill!
Is it fairy-gold? Does it glitter still?
Bless me! it is but a daffodil!

"And look at the crocuses keeping tryst
With the daffodil by the sunshine kissed
Like beautiful bubbles of amethyst
They seem, blown out of earth's snow-mist.

"And snowdrop's delicate, fairy bells,
With a pale green tint like the ocean swells;
And the hyacinths weaving their perfumed spells;
The ground is a rainbow of asphodels."

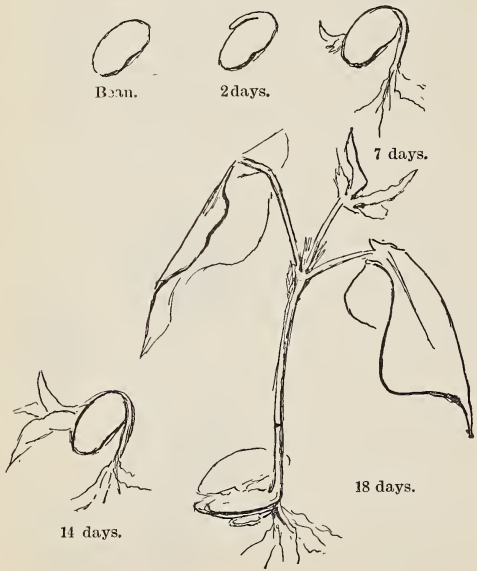
CELIA THAXTER.

From the Japanese.

From Mr. Dow.—Flower Composition.

Spring Flowers.

It is assumed that this exercise will be reached during the latter part of the school year, when the phenomena of awakening plant-life are sure to be of special interest. Many teachers are already accustomed to planting beans, peas, corn, etc., in flower-pots in the schoolroom windows, that children may watch for themselves the wonderful processes of germination and growth. It will be interesting from both the scientific and the artistic points of view to have the various stages of growth observed and sketched by the children. It has often been found a good plan to draw on one sheet of practice paper several successive sketches of the same plant, marking each sketch with the date when it was made. If root growth is to be represented also, the very same specimen cannot be sketched on successive days, as the handling would usually prevent its flourishing; but several seeds of the same kind might be planted at once, allowing for detailed study at several different stages in the plant's development. After preliminary experiments on practice paper, let these sketches be repeated in the book. The accompanying illustration is an example of how the work may be conducted, but not to be copied.



Try to have pupils see in all such specimens not only the physiological facts about the plant, the number of its cotyledons (seed leaves), the relative position and the shape of its true leaves, etc., but also its vigorous life and its delicate beauty. Help them to see that the dainty young leaves should be

drawn with a delicate soft line, not being made to look as if edged with heavy wire like a hat-brim. If the rootlets are numerous and fine, let their effect be shown without trying to count each hair. Try to keep the true relation between the size of the stem and the size of the leaves.

FIG. *a*. Pictorial Drawing of a Flower.

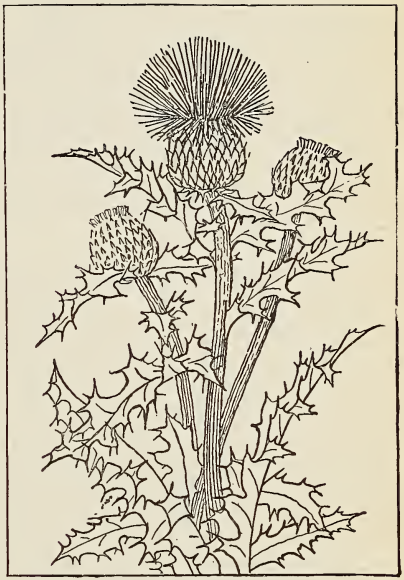


FIG. *b*. Botanical Study of a Flower.

Many pleasant opportunities for the use of drawing occur to the teacher who is interested in nature study. Budding twigs of trees and shrubs, in different stages of growth toward full leafage, give material both for profitable science study and for practice in artistic sketching. It is a good plan to distinguish clearly between botanical drawing and artistic sketching. For instance, a first pictorial sketch might aim to give only the general effect of the budded twig as a whole, its main lines of growth, the characteristic angles at

which its buds and branches start out, and the texture of the buds, hard and smooth, or furry, or delicate and silky, as the case may be. The aim of this pictorial sketch should be to bring out the character, life, and beauty of the twig without showing all its anatomical particulars. Afterward let a second drawing be made showing all the details discoverable by close examination—possibly by microscopic examination. Let the second drawing, the botanical drawing, be a complete memorandum of all the facts about the twig which can be set down in a graphic representation. Such botanical drawing, while it lacks the beauty and poetic quality of the artistic sketch, is of great value in its own way. The difference between the two is comparable to the difference between the scientific description of the formation of ice as given in text-books on physics and a poet's description of the formation of the ice as in Lowell's account of the frozen brook in his "Vision of Sir Launfal." See the illustrations, Figs. *a* and *b*.

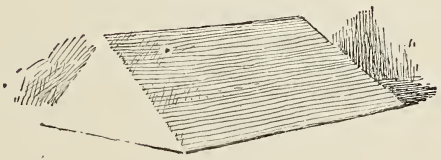
Teachers should aim to give children an insight into the special values of both kinds of drawing, the scientific and the artistic. Let all the work in the drawing-books always express as far as possible the pupils' feeling for the artistic. The other school lessons can be depended on to do much in a variety of ways to develop the scientific bent of the mind, while lessons in drawing or in elementary art study usually constitute the only good opportunity in the whole school programme for cultivating the sense of the beautiful and developing power to appreciate that which is ideal as well as that which can be counted, weighed, and measured.

Still another way of using flowers, is what artists call their decorative treatment, that is to say, their use, not so much for a picture as for filling beautifully some given space. See Figs. *c* and *d*. In these cases, the aim was to produce a beautiful arrangement of lines and of masses of light and dark. The result obtained is not simply an illustration of flowers or grasses, but a beautiful composition,—a pleasing effect, first as a

FIG. *c*. Decorative Treatment of a Flower.

FIG. *d*. Decorative Treatment of a Grass.

whole, then as to the balance of parts and the distribution of light and dark.



Page 21. REPRESENTATION.—Optional Exercise.

A very good lesson for this page would be a small branch from the same scarlet-runner we planted for page 20, when in full blossom. *See page 124.*

Scarlet-runner Shoot.

Let the drawing be from live flowers. Country children can have them in abundance, and, in the case of city schools, a few pupils will usually be able to supply the whole class by a visit to the suburbs, or even to a vacant spot where dandelions and buttercups grow. Leafy twigs may be studied instead of flowers, if more convenient. It will add greatly to the interest and value of the lesson if children have learned in their nature studies to think of leaves and flowers as living things doing useful service to the world, and, at the same time, making the world beautiful for all other workers to live in.

Try to have the twigs or flowers placed in natural positions for study. Lead children to look for the main essentials of growth, to get stem, branches, leaves and flowers in the right proportion, and to observe and show the characteristic attitudes of the leaves and flowers of the particular plants studied.

If pet animals can be studied, direct attention chiefly to the thought of proportions and action, as being most important. To begin this work, copying good examples of outline drawings of animals is legitimate. One of these might be memorized and drawn from memory on page 21. Keep the work in silhouette or mere outline, with few details.

Page 22. REPRESENTATION.—Out-of-Door Pictures.

Study carefully the illustrations on pages 22 and 23 of the drawing-book. Notice especially their simplicity. A great deal is told by the use of very few lines. Notice also the beautiful placing of these few lines, making pleasant divisions of the picture space.

Copy one of the illustrations, enlarged to suit the blank space on the page.

Encourage pupils to try to make simple out-of-door sketches from nature and to bring them in for criticism.

Page 23. REPRESENTATION.—Space Relations in Landscape.

Lead the children to study space relations in landscapes and in buildings, to make compositions of these subjects in an oblong, and to draw one or more in the drawing-book, seeking to produce beauty of relationship.

Space Relations.—By means of similar exercises in the preceding work, the pupils will now begin to see the value and necessity of the thoughtful consideration of space relations. The straight-line arrangements were taken first, and the children have been led to see the application of principles in designs for mouldings, panellings, plaids, etc. (page 92). In this exercise the aim is to lead the children to see and to express the thought of proportion, and to consider the limitations of space and the relations of spaces to each other, in simple drawing of landscape,—in other words, to create pleasing compositions of space relations, using the general features of a landscape as motives.

Preparation for the Lesson.—Talk with the children of pictures and their usual shape, an oblong. Bring out their ideas of pleasing oblongs. A good way to do this is to give them squares of folding paper and let them fold and cut different shaped oblongs—some would do well for one space on the wall, others for other spaces. Let them suppose their oblongs to be shapes in which simple landscape compositions are to be made showing agreeable space relations. Speak of the horizon and lead them to see that the space relations will be better if the horizon line is drawn either above or below the middle of the space, as it will give more variety. If there are distant hills, the space relations will give more pleasure if the hills are higher upon one side than the other, or if they are upon but one side. A tree will look better if placed a little at one side, rather than in the middle. From a very few elements, the children will learn to create landscape compositions that are extremely agreeable.

Another way of leading to the same end, where circumstances permit, is to have the children observe the landscape from the schoolroom window, or

elsewhere, through an oblong opening cut in a sheet of paper. Let them move their oblongs to the left or right, up and down, and notice the features of the landscape that can be seen through the oblong. They will notice how differently the space is divided by these features and will gain suggestions for their own composition which is to follow. Sometimes the horizon will be seen high, sometimes low—sometimes a river or a lake or a little of the sea may be seen —sometimes a tree or some woods will be at one side or the other. Seeing how different the features may be that appear in the space, they will feel interested to try to make a composition of their own. If landscape is not visible from the schoolroom window, a study of roofs is good.

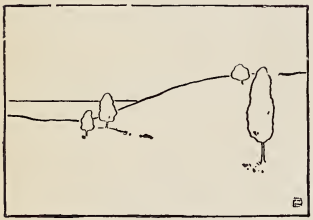
Suggestions to Pupils.—Sketch two or more oblongs of good proportion on practice paper. Think of pleasant, simple landscape features and of a way to arrange them within the oblong so that the space divisions will not be equal, but will be so made as to balance agreeably—no feature dividing the space exactly in the middle and no two space divisions exactly alike. This is to be a composition original with you, but using pleasing landscape lines. Notice the shape and proportion of the enclosing figures,—the frames, as it were, of the pictures, the different spaces of hill and field and river, —the profile of the buildings against the sky, and the space divisions.

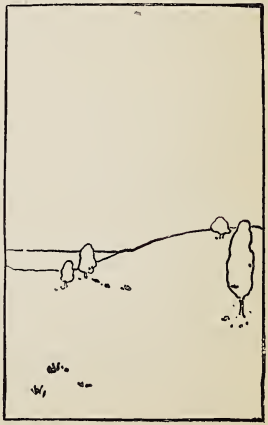
If you like, you can make a new composition by drawing an oblong of a different shape from those on page 23, and, using the same features, adapt them to your new oblong.

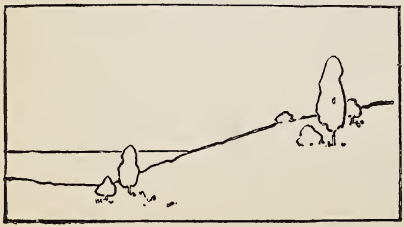
Sketch an oblong on the drawing-book page of a suitable size for the page and within it sketch your best composition, improving it if you can. Draw this in clear, firm lines, being careful to leave out small details, using only general features.

Brush Work.—This exercise affords opportunity for the use of the brush and ink, if school conditions will permit. See **Color Study,** page 32. A change from the pencil to the brush and from the brush to the pencil is not only agreeable through variety, but also gives greater flexibility to the hand.

Class Work.—An interesting exercise in imaginative landscape work—composition—can be given to a class. Let the oblong be drawn and then let some child suggest what there shall be in it,—a hillside, a lake, distant hills, a tree, etc.,—and let each child draw his own composition of these features in his oblong.







Page 24. PICTURE STUDY.

The study of Drawing is meant to help children to grow in power of appreciation as well as in power of execution. The study of really good pictures should, therefore, be carried on in each grade, and the subjects chosen should be carefully selected so that they may be attractive and reasonably intelligible to pupils of average capacity. When in doubt as to choice, always present what seems to be intrinsically the best. Children often show unexpected ability to recognize the greatness of a real master.

Pictures closely related to the children's own experience of life are specially desirable for the lower grades.

Do not give ready-made information at first, but let the pupils enjoy the pictures in their own way, telling what they see and what they like. Afterwards the teacher may profitably add some items of interest or direct attention to some beauty which the children did not see for themselves.

Edwin Landseer (1802–1873), the famous painter of animals, was the youngest of three sons of an eminent engraver. There are now, in South Kensington Museum, some sketches of animals which the little Edwin made when five years old, and some very good etchings made three years after. He entered the school of the Royal Academy at fourteen, and divided his time between working in the classes and sketching from wild beasts in the museum. He was a handsome, manly boy, and very industrious.

An intimate friendship sprang up later between him and Sir Walter Scott, because of their love of dogs. Sir Walter wrote in his journal, "Landseer's dogs are the most magnificent things I ever saw, leaping and bounding all over the canvas." Landseer spent much time in Scotland, but lived in London, calling his house Maida Vale, after Sir Walter Scott's favorite dog.

The first picture in Book I. is reproduced from a painting by Sir Edwin Landseer. It is the portrait of a hound owned by Lady Blessington, waiting at the foot of a flight of stairs for his mistress. The perfection with which his body is drawn and the anxious, listening pose of the intelligent head have made the picture famous.

Hamerton says, "The best commentators on Landseer, the best defenders of his genius, are the dogs themselves." Landseer was a sculptor also, and modelled the famous lions at the base of the statue of Lord Nelson, in Trafalgar Square, London.

Jean François Millet (1814–1875), who drew in pastel the picture of "The First Step," devoted years of patient, ill-paid work to the study of his peasant neighbors in

France. He was born and brought up in the country, and always loved the plain, simple ways of living that he saw around him. In later years he became known as a great man, and his studies of peasant life have done a great deal to help other people to find nobility and beauty in common things.

The children will be interested to see the wooden shoes worn by the father and mother, and they will readily imagine the story which the attitudes suggest.

Anton Van Dyck (1599–1641) was a Flemish painter. He spent several years in England and was knighted by Charles I. The little James, Duke of York, whose portrait is represented in the drawing-book, was a son of Charles I., and afterwards became King of England (James II.) This print was made from a crayon copy of Van Dyck's painting, so it shows two signatures—that of the painter and that of the Italian copyist. The complete picture shows a group of three children.

Children usually enjoy telling what they know and like about a picture. The study of any good reproduction gives an excellent subject for a language lesson, either oral or written.

The teacher for Exercise 24 gives a short talk on each picture and the artist. Try to have other pictures by the same artists.

One of these might be pasted on the left part of the page, and a short account of it, or of the artist, written, properly placed, beside it. Each child might choose the artist who most interests him.

One cent reproductions of the great masters can be procured from the Perry Picture Co., Malden, Mass., or from the Cosmos Picture Co., Broadway, N.Y., and from many others.

BOOK II.—Fifth Year.

Representation, Appearance of Form, Picture Drawing.

- NATURE—*Sprays, Fruit, Vegetables; from the Pose; from Animals.*
- OBJECTS—*Bowls, Boxes, Familiar Objects.*
- TYPE SOLIDS—*Hemisphere, Cylinder, Square Prism, Right Angled Triangular Prism.*
- COMPOSITION—*Space Relation in Landscape, Grouping.*

Decoration, Ornamentation of Form, Original Design.

- HISTORIC ORNAMENT—*Greek.*
- DECORATIVE DESIGN—*Space Relations, Plaids.*

Construction, Facts of Form, Working Drawings.

- PATTERNS—*Prisms.*
- CONSTRUCTIVE DESIGN.—*Boxes.*

Page 1. REPRESENTATION.—Sketching from Nature: Sprays of Leaves, Life and Growth.

Let the children gather and sketch sprays of leaves, making quick sketches; choose and study their most beautiful aspect and draw them in the drawing-book, studying the examples of rendering.

Spray of Leaves.—The children are always pleased to have for the first work of the school year an exercise in drawing from nature. Such study is always a delight to the child, and at this time it connects itself very pleasantly with his happy vacation experiences. A simple lilac spray, beautiful in its strong, sturdy growth, is suggested for this exercise. Any other simple branch, with simple leaves, may be chosen. Every country child knows the lilac bushes as a favorite nesting place for the birds; Hood speaks of the "Lilacs where the robins built," and Robert Louis Stevenson of the "thrushes singing in the lilacs round the lawn."

Preparation for the Lesson.—Have a pleasant talk with the children previous to the exercise, about the selection of a spray or branch to serve as a model for this lesson. Tell them to select thoughtfully the branch that is not only full of life, but the one that is the most beautiful, the one they like the best. Show them how the beauty of the drawing depends on the selection of a well-balanced, vigorous spray for a model.

Let the children arrange the spray (in water, if possible, so that it will remain fresh) in a graceful position, and so that it presents the most pleasing appearance. See **Placing,** Manual, Book I., page 15. Ask them to think how the picture will look; this will lead them to the best thought for the placing of the branch. It is a good way to let them test the general appearance, by looking at the spray between two pencils held vertical.

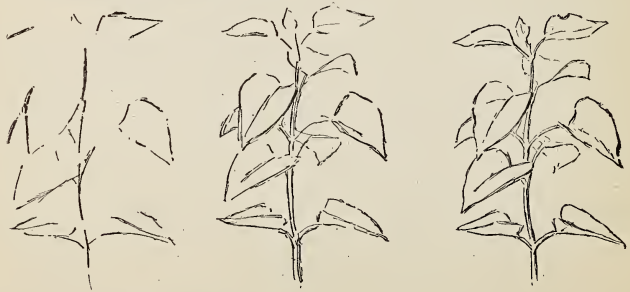
Suggestions for the Pupils.— Study a spray that makes for you a good picture. On practice paper draw the leading lines lightly and block in quickly the entire branch. Compare your drawing with the spray. Different kinds of twigs or sprays grow in different ways. See how the leaves grow out of the branch, and the different directions they take in growing. Hold your pencil vertical between you and a leaf to note its direction. Notice how seldom a leaf is seen wholly facing. Give attention to the size and shape of the leaves and to the thickness of the stem. Which leaves point upward

and which to the left or right? Which are the largest? Now draw again on practice paper quickly,—a different spray, if you wish, using straight lines to show general structure and this time make your drawings of a good size for the space on page 1 of the drawing-book.

Study the illustrations in the drawing-book for suggestions as to rendering. See how simply, yet how plainly, is expressed the truth of the growth of the plant, and the life and grace of the leaf. Observe the character of the lines, notice how transparent they are; notice also that it is not necessary to draw an unbroken line to express the outline, or to draw all the lines and notches of the leaf. Study also illustrated magazines, looking for bits of foliage by various artists.

Now sketch a spray on the drawing-book page. Think of the tenderness and beauty of the leaves and of the grace as well as vigor of the spray and try to have your drawings show that you are drawing from a living branch, and that you care for it very much.

Blocking-in.—Attention should be given in drawing to study and expression of the mass first. Blocking-in, which is simply expressing general proportion and direction by straight lines, serves to direct the thought immediately to the mass, and gives a quick and simple means of showing the general outline. Train the children to use the pencil lightly, with long, loose holding; and to watch the object while blocking-in rather than the pencil, seeing the form with the eye, and feeling for the form, as it were, with the pencil. See **Blocking-in,** page 13.



Beauty and Interest as factors in the Work.—The beauty of the objects selected will make its own appeal to the hearts of the children,

while additional interest may be aroused that will stimulate thoughtful observation.

The lilac is beautiful at all times, in the spring when the "purple clusters load the lilac bushes," and spread their fragrance through the air, and scarcely less attractive in the autumn with its stately growth and cool, dark green leaves. And

> "There's beauty all around our path, if but our watchful eyes
> Can trace it midst familiar things and through their lowly guise."

In studying a branch, the matter of growth and the means of life for the plant will be interesting and helpful. Ruskin's description of the growth of leaves will be very suggestive to the teacher as to observation that the children may make of leaves:

"For the leaves, as we shall see immediately, are the feeders of the plant. Their own orderly habits of succession must not interfere with their main business of finding food. Where the sun and air are, the leaf must go, whether it be out of order or not. So, therefore, in any group, the first consideration with the young leaves is much like that of young bees, how to keep out of each other's way, that every one may at once leave its neighbors as much free-air pasture as possible, and obtain a relative freedom for itself. This would be quite a simple matter, and produce other simply balanced forms, if each branch, with open air all around it, had nothing to think of but reconcilement of interest among its own leaves. But every branch has others to meet or cross, sharing with them, in various advantage, what shade, or sun, or rain is to be had. Hence every single leaf-cluster presents the general aspect of a little family, entirely at unity among themselves, but obliged to get their living by various shifts, concessions, and infringements of the family rules, in order not to invade the privileges of other people in their neighborhood."

"The stem is a channel of intercourse between the roots and the leaves. It can gather no nourishment. It only carries nourishment, being, in fact, a group of canals for the conveyance of marketable commodities with an electric telegraph attached to each, transmitting messages from leaf to root, and root to leaf, up and down the tree."

This thought of an unobstructed communication from root to leaf will help to lead to the drawing of the lesser twigs and leaves as growing from and not simply fastened on the main branch. Lead the children to study good drawings and illustrations to learn how this is shown.

EXERCISE I. A.—Natural Growth.

Object: To study plant-form and growth from a natural branch.

Nature.—For the first exercise in the book we turn to Nature for inspiration in the production of the beautiful. It is too often forgotten that Art in form and color is the interpretation of the highest truth of Nature as expressed in the beauty of her laws of structure and of life. Study a simple branch or leafy twig, and it will reveal wonderful laws of growth and strength. The branch grows upward, the leaves shoot forth sometimes alternate, sometimes in a rhythmic whorl. The tangential union of each leaf with the branch or stem, and the decrease of the stem above each succeeding leaf must be noted. The curve of the midrib of each leaf is always continuous with the curve or inclination of the branch. Unity of growth is always preserved.

Appearance of the Leaves.—If you hold a branch naturally, you will see that some of the leaves turn back, some forward, some to the left and some to the right; some upward, some downward, governed by what Ruskin calls the law of deflection, falling gradually back from the uppermost one, "the gentle law of respect and room for each other." He says: "And in the arrangement of these concessions, there is an exquisite sensibility among the leaves. They do not grow each to his own liking till they run against one another, and then turn back sulkily, but by a watchful instinct far apart, they anticipate their companions' courses as ships at sea, and in every new unfolding of their edged tissue, guide themselves by the sense of each other's remote presence, and by a watchful penetration of leafy purpose in the far future. . . . But the leaf, full of fears and affections, shrinks and seeks as it obeys. Not thrust, but awed into its retiring; not dragged, but won to its advance; not bent aside, as by a bridle, into new courses of growth, but persuaded and converted through tender continuance of voluntary change."*

It is this manifold change in direction with the play of sunlight and shadow that contributes so largely to the beauty of trees or a mass of foliage.

> "Amid the leaves' green mass, a sunny play
> Of flash and shadows stirs like inward life."

*Ruskin has given most careful study to Leaf Beauty.—Modern Painters, Vol. V., Part VI.

A leaf will very seldom be seen absolutely facing; each will appear more or less foreshortened. This difference in appearance must be carefully studied and carefully expressed. Very little attention should be given to the veins of the leaves or to the notches on the margins. Put the spray or branch at quite a distance from you, so that you can get the effect of it as a whole; you do not see the veins, you do not see the notches in the margin, but you can see that the light falls upon one side of the leaf or stem, and that the side opposite the light is darker than the side toward the light, and also that some leaves and parts of leaves are nearer than others, and that the farther ones give the effect of distance; you can see the varying relations of the leaves to the whole. These are the things which go to make the beautiful effect of a spray or branch. The side upon which the light falls may be expressed by a lighter outline, and the side away from the light by a stronger outline; the nearer parts may be expressed by a more definite outline, and the farther parts by a more vague outline, and a few parts which appear very prominently may be accentuated by one or two strong touches. These are the things that should be drawn, but before they are drawn they must be seen. Every pupil should have a branch that he may himself see.

The drawing of the spray should be the crowning of the work in the book. Try then to have the pupils see, not the details but the greater elements of form, position, and relation that make the beauty of the whole. Let them try to make each leaf grow from the stalk, each leaf show life in its spreading shape, the stem taper as it gives off leaf after leaf, and the terminal leaves shoot up, ready to expand. This may seem a great deal to look for with children at this stage, but if you can lead them into the spirit of the growing branch, they will find a way to express it.

To be developed.—Love of Nature; general effect of spray; distance; varying outline.

Study of a Natural Branch by Pupils.—Notice the general character of your branch; is it sturdy, showing vigorous growth, or is it delicate? What is the general direction of the stem? Is it straight up, or straight forward? Or does it bend? Could you express its direction by one straight line, or would two or three straight lines be necessary in order to show changes in direction? Are the leaves *opposite* each other, or are they *alternate*? Notice in what direction they point.

Compare the distances between the leaves or between the pairs of leaves in various parts of the stem. Where is the distance the greatest? the least? Notice the upper end of the branch; are there two leaves at the end, or only one? Study also the terminal bud.

Stand a book on its end on the back part of your desk, and stand the branch up between the leaves of the book at the top, or the parts of the binding. Take pains to place the branch so that you have the most pleasing view. Look at the proportion of the width to the height of the whole mass. Do any of the leaves on your branch appear *foreshortened*?

Observation Exercises for Pupils.—From which side does the light fall on your natural branch? Which is the dark side of the branch? Notice that you cannot in your natural branch see all the edge of each leaf distinctly. This can be expressed in your drawing by broken lines and lines of varying thickness. If your leaves are toothed, do not try to draw every tooth,—merely indicate a tooth now and then.—*Drawing-Book, page 1: Drawing the Branch.*

Directions.—Plan for a large drawing of your branch. Block in the stem by one or more straight lines. Indicate the shape of the whole mass by a few light lines. Block in the midribs of the leaves and the ribs themselves. Draw the curves of the stem and leaves over the blocking-in lines. Erase the blocking-in lines where necessary. Finish in gray lines varying in thickness, making them darker on the side away from the light.

Encourage all the outside sketching which pupils are willing to attempt. Let branches of seed vessels be drawn as well as branches of leaves and flowers.

See Book I., page 1, for simpler work, or lessons on fruit.

Page 2. REPRESENTATION.—Hemisphere or Cylinder.

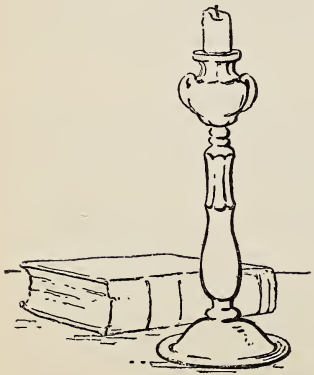
The Hemisphere.—The hemisphere is readily developed from the sphere by bisecting it. A hemisphere is half of a sphere. It should be studied by comparing it with the sphere and cube. The sphere has one face, the hemisphere has two faces. The hemisphere will stand on either face, will slide on one face, will rock on one face, but it will not roll. One face is similar to the face of the sphere, but because it is not completely round, it is called *rounding*, not round. The other face of the hemisphere is like the faces of the cube, plane. The shape of the plane face of the hemisphere is a circle.

The sphere has no edges; the cube has twelve edges. The hemisphere has one edge. The edges of the cube are straight; the edge of the hemisphere is *curved*.

The form of the hemisphere is naturally more often seen in divided objects than elsewhere,—half-fruits of various kinds; but it is also met in many manufactured objects; dishes, bowls, kettles, ladles, are frequently like a hemisphere in outline; also buttons, caps, lamp-shades. It is important that the children should be led to find the form studied in objects around them, because, on the one hand, the resemblance serves to interest them in the type form itself and to fix it in their minds; and, on the other hand, it tends to make their knowledge of form real and vital, as being a component part of all their surroundings.

The Cylinder.—The cylinder is also a simple and a very familiar form. It is somewhat like the sphere and somewhat like the cube. It is called by Froebel the "mediation" between the sphere and the cube. The sphere will stand and will roll. The cube will stand and will slide. The cylinder will roll and will stand and will slide. Its surface has three parts or faces; two of the faces are plane faces. The other face is curved, as it is round one way and straight one way.

The nature of both the sphere and the cube requires that they shall measure equally from front to back, from left to right, from top to bottom. The cylinder, however, is not so restricted. Its height or length may be of any proportion to its width. Thus a wire, an unsharpened lead-pencil, a rolling-pin, a street-roller, a collar-box, a coin are all cylinders, although of such



different proportions. They all have three faces,—two plane, one curved. This element of proportion (which is, in art, the pleasing relation of unequal parts) adds much to the beauty of the cylinder. Beauty should always be considered in the preparation or selection of materials for Form Study.

In Nature, the trunks of trees are like a cylinder; the limbs between the offshoot of one branch and that of another are like a cylinder; the branches between the twigs, the twigs between the nodes, are like a cylinder. A node is the point on a stem where a leaf starts. The cylinder is a favorite form in many ways. Handles are generally cylindric, as a cylinder can be so comfortably grasped and held; from the handle of a baby's rattle to the handle of a crowbar, the cylinder prevails. Penholders and pencils are like cylinders. A hollow cylinder is also a favorite form for many receptacles. Music-rolls, travelling-rolls, needle-books, etc., are found in the form of a cylinder. Cans of various sorts are cylindric. Napkin-rings, umbrella stands, pails, cups, etc., are like a cylinder. Boilers, gasometers, cisterns, are like a cylinder. The form of all binding material is generally that of a cylinder, as wire, string, cord, rope. Conduits are generally of the form of a cylinder, as water, gas, and steam pipe.

In preparation for this lesson, review briefly the pupils' ideas about the hemisphere. Ask for mention of things resembling the hemisphere. Ask pupils to bring from home things like the hemisphere, to be studied and drawn. Cups and bowls are likely to be favorite selections. Should it not seem practicable to secure individual study of material this way, half a dozen china bowls (quart bowls are large enough) may be distributed about the room, serving as models for the whole class. Try to have these models so placed that in every case a pupil will see a little way down into the interior of the bowl.

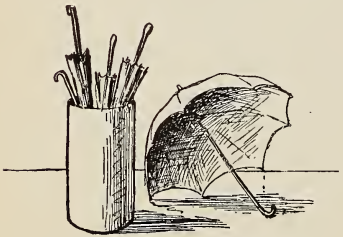
Before pupils begin to draw, call their attention to the general proportions of the bowls before them. Some have sides nearly straight, some have sides with rounding curves, some are comparatively deep and narrow, some are broad and shallow. Have them study also the edge or lip of the bowl;—is there any sharp angle about it anywhere, or is the outline a gentle curve? Have them notice that the circular opening of the bowl does not *look* circular, but rather elliptical. Have them notice also that the extremities of the ellipse,

though they may look quite narrow when viewed from certain standpoints, are always rounded, *never* pointed.

Bowls vary in their thickness and mode of finish around the edge. Many bowls of heavy earthenware or stone china present the appearances shown in the illustration on the drawing-book page, the inner edge of the rim disappearing from distinct sight a part of the way around. Ask pupils to observe whether they discover any such effect in the bowls they are studying.

A first drawing on practice paper should prepare pupils well for drawing on page 2. *For method see Manual, page 73.*

Encourage all the home sketching that pupils are inclined to do. Some will notice for themselves the likeness between a hemisphere resting on its plane face and a hill of rounding contour. If it is possible to get any distant views of hills in profile, by all means encourage pupils to try to sketch those, following the outlines carefully so as to express the real character of the range.



Page 3. REPRESENTATION.—Grouping and Drawing Familiar Objects.

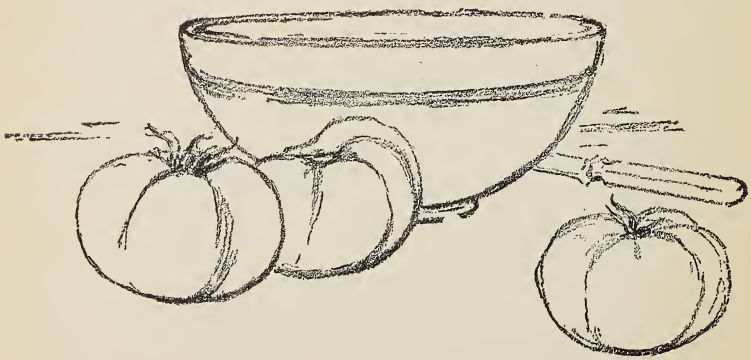
It is suggested on the drawing-book page that a group be made including objects that resemble the hemisphere and cylinder. This will review those forms which pupils have studied in connection with Book I. Ask pupils to suggest desirable objects, objects which will make a group that has some meaning and suggestiveness. For instance, a baseball, a bat, and a lunch box or lunch basket in the almost cubic form so often used by schoolboys might suggest a picnic excursion where a ball game was one of the sports enjoyed. A work-box, a spheric pincushion (or ball of darning cotton), and a spool of thread might illustrate "mending day." A common splint fruit basket (nearly cubic, as one often finds such baskets) filled with apples, resting on a pie-board beside a wooden rolling-pin might suggest "baking day." Try to have the group mean something interesting and at the same time be pleasing on account of the forms included in it.

If a group of three objects seems too difficult for the pupils to plan, let only two be used. Choice of objects may then prove easier.

Let the first sketch be on practice paper. Then study to improve upon both idea and execution, drawing on page 3. The illustration given on the drawing-book page gives hints about good grouping, and shows also a desirable sort of line to use in drawing. Notice how light and shade are suggested, and how distant parts are made to look farther away by being drawn in fainter lines.

This review of the study and drawing of the type forms will make pupils better able to draw objects of these forms in connection with their other lessons. Teachers often find it a good plan to *allow* the illustration of written exercises in arithmetic, language, geography, etc., as a special privilege to those who have done their best in the written matter. Illustrations should not be accepted as a substitute for regular work in other subjects, but they do add interest to other exercises, and an opportunity to make illustrations is sometimes an inducement to added thoughtfulness and industry.

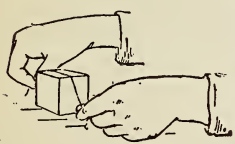
The group of models given above may suggest an arrangement of objects similar in form. *Teachers are referred to* **Grouping,** *page* 13.



Page 4. REPRESENTATION.—Angular Objects.

Object: To study the form of a square prism; to see the shape and proportion of some of its views; to draw it.

The Square Prism.—A square prism may be made either by division of a cube or by combination of cubes. Model a cube in clay; bisect it vertically from left to right; lay one half over at the front and one at the back. You have two square prisms that are not as high as wide. A square prism that is not high as wide is called a **square plinth.** Place the two plinths together so as to form a cube again, as in the first place. Bisect from front to back; you have four square prisms higher than they are wide. These may be called square columns. A square prism has two square faces, called its bases, opposite and parallel to each other; it also has four other faces, each pair of those faces being opposite and parallel. Applying this description, you will see that square plinths, cubes, and square columns are all square prisms.

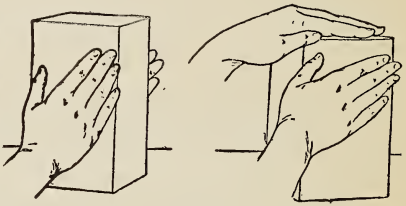


Place four cubes so that two faces of each cube will each be touched by a face of another cube, and you have a square prism which is a square plinth. Put one cube on another, and you have a square prism which may be called a square column.

As has been said, the proportions of a cylinder and of a square prism may vary to any extent. The proportion of a cylinder may vary from that of a wafer to that of a telegraph post or a telegraph wire. In like manner, the proportion of a square prism may vary from that of a tile to that of a beam. A cube is a square prism, having its bases equal squares and four other square faces, each pair of which faces are opposite and parallel. But as the cube has its distinctive name, it is not generally spoken of as a square prism. The name *square prism*, like the name *cylinder*, is generally applied to objects which are higher than they are wide. A cylinder that is not as high as wide is called a **circular plinth.** There is no distinctive name for the cylinder that has its three dimensions equal.

The Model.—Observe the model. It has two equal square faces and four equal oblong faces. An oblong face is longer one way than the other. The square faces are opposite; each oblong face has its opposite. Place the model vertical. Pass your fingers up and down any two of its opposite, oblong faces; they are everywhere the same distance apart; they are **parallel** to each other. The left and right faces are *parallel* faces; the front and back faces are *parallel* faces. The top and bottom faces are parallel.

Move your fingers toward each other on any two adjacent faces of the square prism. You find that the faces meet so as to make a square corner. They are **perpendicular** to each other. Each square face is *perpendicular* to four oblong faces. Each oblong face is *perpendicular* to two square faces and two oblong faces.



These two terms, *parallel* and *perpendicular*, describe the relation of two faces toward each other. They should not, therefore, be used in speaking of one face alone. Hence, it is not right to speak of a parallel face or of a perpendicular face,—the plural must always be used. In the past there has sometimes been a confusion in the use of the terms perpendicular and vertical. There should be a clear distinction between these terms; they are not synonymous.

Study also the edges of the square prism. The opposite edges are parallel to each other; the adjacent edges are perpendicular to each other. Notice then that a horizontal and a vertical edge are perpendicular to each other. Notice also that an edge may be perpendicular to another edge without being vertical. Tip the prism, and the same two edges remain perpendicular to each other, although neither horizontal nor vertical. Be careful, then, not to use the term *perpendicular* when you wish to speak simply of a vertical face, edge, or line.

Place the model vertical, with the top on a level with the eye. Lower it somewhat and observe the appearance of the top face; you see that the top

face does not appear as wide from front to back as it does from left to right. You see also that the further edge does not look as long as the nearer one, and that the left and right edges appear to run toward it. Place the model horizontal from front to back, and observe it in the same way. Place the model horizontal from left to right, and observe it in the same way. Lead pupils to observe their models in the same way, but do not tell them what to see. Be sure to make clear to them, however, that this is the study of the appearance of the model, while the geometric views give the facts of its form.

Objects like a Square Prism.—The stems of some plants are somewhat like square prisms, but the form of a square prism is not common in Nature. Boxes and trunks are generally like a square prism, as its form is so well adapted to packing. Cars, omnibuses, and other vehicles frequently have the form of a square prism.

To be developed.—Parallel faces, perpendicular faces; parallel edges, perpendicular edges; parallel lines, perpendicular lines; seeing the facts, the appearance; objects like a square prism; quality of line.

Suggestions for Study of the Model by Pupils.—How does this model compare with the cylinder? What kind of faces has it? (*Its faces are plane faces.*) What is the shape of the faces? (*Some are square, some oblong.*) How many square faces has it? how many oblong? What is it called? (*It is called a square prism.*) Move your fingers on opposite faces; what can you say of them? (*They are everywhere the same distance apart.*) What are such faces called? (*They are called parallel faces.*) Move your fingers toward each other on faces that are near each other; what can you say of those faces? (*They make a square corner.*) What are such faces called? (*They are called perpendicular faces.*) Can you find any parallel edges? any perpendicular edges?

How high is the model? how wide? What is the proportion of the width to the height? What is the shape of the front view of the vertical prism? (*The shape is an oblong.*) What is the shape of the top view? (*The shape is a square.*) Place the prism horizontal and observe it in a similar way as to its end and front views Hold it vertical on a level with the eyes. Lower it a little. What is the appearance of the top face? Hold it horizontal from front to back. What is the appearance of the top face? Hold it horizontal from left to right. What is the appearance of the top face?

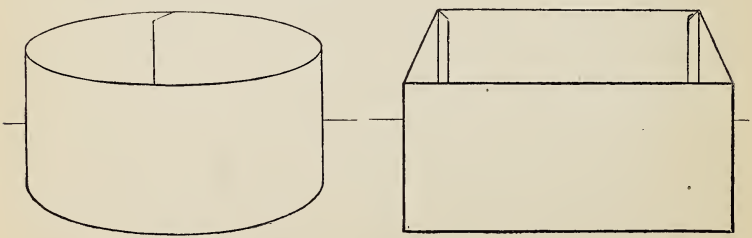
Observation Exercises by Pupils.—What can you see in the room that is like a square prism? What can you think of that is like a square prism? For what purposes are things like a square prism used?

EXERCISE IV. A.

Pupils may bring boxes, or they may fold strips of paper to represent boxes open at top and bottom that will serve as models. Open boxes are given as models, as the inside helps the pupil to see the appearance. *See Exercise for page 14, Manual, Book II., page 169.*

If you have not the boxes, take a sheet of paper ten inches long and three inches wide. Place the paper with long edges from left to right; fold the nearer edge to the farther edge and crease firmly, making two long, narrow oblongs. Cut or tear these oblongs apart with care. Roll one and paste, lapping about half an inch to make a hollow cylinder.

Place the other oblong on the desk with long edges from back to front. Fold the near edge about half an inch over and crease. Turn the paper around so as to bring the other short edge near you. Fold the nearer edge over to the crease just made, and crease again. Unfold. Fold the nearer edge over to meet the last crease made, and crease. Unfold. You now have three creases. Fold the paper over until the middle crease is exactly over the farther one, and crease. Unfold. You now have the pattern of the sides of a square box. Paste the lap so as to represent a box. This may twist a little. A little careful pressure on the folded edges taken between the palms of the hands will bring it into shape. You are now provided with two models which will serve, if you have not the boxes.



The Appearance.—Place the cylindric box at an angle of about 25° below the eye, placing it so that the lap will be about in the middle of the farther part. Study the appearance of the upper edge (an ellipse), noting

about how much of the lap you see; compare the curve of the upper and lower edges of the box, noting that the lower edge appears to curve more than the upper. Draw the appearance, drawing the top, the bottom, and the sides.

Remove* the cover of the rectangular box and place the box facing you, at an angle of about 25° below the eye. Study the appearance of the upper edges, noting how much of the inside of the box can be seen. The two farther inside corners are visible in part; therefore the farther edge must appear shorter than the nearer one, and the left and right edges must appear to converge. Draw the front face, the farther edge, the left and right edges, and the inside corners.

Study also the distance of the boxes below the level of the eye. This is an important point, and should always be considered in connection with the appearance.

It will be found that pupils will see the appearance of the upper edges in both these hollow models better than in solid models. The part of the lap visible in the cylindric box and of the inside corners in the rectangular box help very much to show the apparent shape. For the arrangement of the models on the pupils' desks, see Manual, Book I., page 79. The aim should be to get as much free and unbiassed seeing on the part of pupils as possible.

Circles and vertical ellipses should be drawn from the lower end of the imaginary vertical diameter, holding the pencil from left to right all the time. In drawing horizontal ellipses the pencil should be held as for a horizontal line. Circles, ellipses, and ovals should be sketched with one sweep of the pencil. As a drill exercise, see pages 28 and 29.

Drill.—The purpose of this drill exercise is to enable the pupils to draw ellipses freely and readily as a preparation for the drawing of the cylindric box. Not more than ten minutes should be given to this exercise.

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* If teachers desire, the cover of the box may be simply raised instead of being removed. In that case the box should be placed so that the cover would be at the back. Some pupils might be able to draw the box and the cover.

To be developed. — Appearance of open cylindric box below the eye; apparent shape of top; appearance of lower curve; appearance of open rectangular box below the eye; apparent convergence of edges; free movement; quality of line.

Suggestions for Study of the Cylindric Box by Pupils.—Remove the cover of the box. The box is now to be studied as it *appears*. Hold the box just made at *arm's length*, with the top (1) on a level with the eye, (2) two inches below the level of the eye, (3) four inches below. How much of the inside can you see? How much of the lap at the farther part? What is the shape of the top as it appears to you? (*It is the shape of an ellipse.*) Raise the box two inches; does the appearance of the top change? (*The top appears narrower from back to front.*)

Hold the box at arm's length, somewhat below the eye; how much of the lower edge can you see? (*I can see one half of the lower edge.*) What is the appearance of the lower edge? (*It appears to curve downward.*) Is the curve that of a circle or that of an ellipse? If you could see the whole of the appearance, what figure would it be like? Compare the front half of the upper edge and that part of the lower edge which is visible; which appears to curve the more? (*The lower edge appears to curve the more.*) What is the proportion of the height to the width of the box. Compare the width of the ellipse at the top from back to front, with the width from left to right. How far below the level of the eye is the box?

Study of the Rectangular Box by Pupils.—Remove the cover of the box. What is the shape of the top view? of the front view? Hold the open box at arm's length, with the top (1) on a level with the eye, (2) two inches below the level of the eye, (3) four inches below. How much of the inside can you see? (*I can see part way into the box and I can see a part of the inside corners.*) How does the farther edge appear to you? (*It appears a little shorter than the nearer.*) How do the left and right edges appear? (*They appear to run toward each other.*) We say then that they appear to **converge.**

What is the proportion of the height to the width of the box? Compare the width of the top from back to front with the width from left to right. Compare the length of the farther edge with the length of the nearer edge. How far below the level of the eye is the box? How do the two boxes compare in apparent width from back to front?—*Drawing-Book, page 4.*

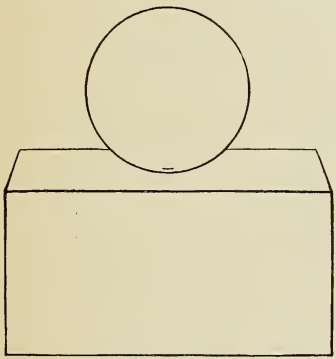
Directions.—Draw the cylindric box as it appears to you, in the space at the left, making a good-sized drawing, placing it well in the space. Draw the silhouette, rest line, inner lines.

In the space at the right draw the rectangular box as it appears to you, making a drawing corresponding in size to the one at the left. Draw the silhouette, rest line, inner lines. *Read carefully Exercise 4, Book I.*

Page 5. REPRESENTATION.—Sphere on Square Prism; Appearance below the Eye.

Object: To study the appearance of a group containing a rectangular solid; to draw the appearance. (*Read Exercise 7, Manual, Book I., page 86.*)

Appearance of the Group.—Place the square prism horizontal from left to right, and on the centre of the top face place the sphere. Hold it on a level with the eye. You see the front view,—a circle resting on the centre of a horizontal oblong. Lower the group until it is at about an angle of 25° below the eye. You notice that the top face is visible, and that the sphere seems to rest on it a little forward of the centre. You see also that the farther edge of the top face of the prism appears not very high up on the outline of the sphere, and that the left and right edges of the top face seem to run toward each other. Draw what you see just as it appears to you.

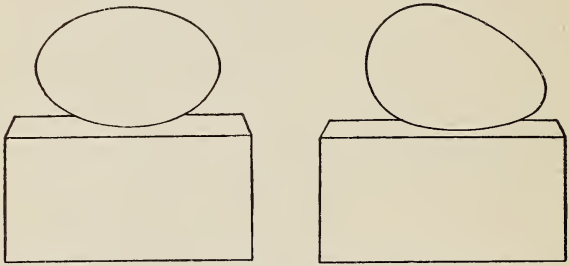


In giving this exercise to pupils, be very careful not in any way to tell them what they see. Be careful that each has an opportunity to see for himself. For the arrangement of pupils and models, see Manual, Book I., page 79.

Further Suggestions.—If pupils in previous work have drawn the appearance of the sphere on the square prism, they can draw the appearance of the hemisphere on the square prism. Place the square prism as above, and upon the centre of the top face, the hemisphere. Raise the group to a level with the eye.* Lower it somewhat below the eye. The top face of the hemisphere appears like an ellipse. The top face of the square prism will appear a little wider from back to front than the top face of the hemisphere, although they really measure the same. The top face of the square prism will appear wider to you than the top face of the hemisphere because it is farther below

* Hemispheres will remain steady if placed on tiny brass rings.

the eye. The farther edge of the top face of the square prism will not appear to be very high up on the outline of the hemisphere. The left and right edges of the top face of the square prism will appear to run toward each other, and the hemisphere will appear to be a little in front of the centre of the top face of the square prism, because you are looking down on it. Follow all this with the models in hand, studying carefully their appearance. If you do not see all that has been described, try it again. You will gradually learn the difference between the facts and the appearance, and you will also learn the truth of both.



If the pupils have drawn the appearance of the hemisphere on the cube previously, either the ellipsoid or the ovoid may be placed upon the square prism, or objects similar to any of these models may be used to make a group, the appearance of which pupils may draw.

If these have already been drawn, objects like any of these solids may be arranged in groups of two, one of them being a rectangular object. In selecting such objects, beauty of form should be kept in mind, as well as a pleasing relation between the two objects grouped.

To be developed.—Facts of a sphere on a square prism; appearance below the eye; foreshortening; convergence; quality of line.

Study of the Group by Pupils.—Place your square prism horizontal from left to right. Upon it place your sphere. Where will you place the sphere so that it will look well? (*I will place it on the centre of the top face.*) Raise the group until it is on the level of the eye. Describe its front view. Can you see the top face of the square

prism? Lower the group somewhat. Can you see the top face now? Is any part hidden? How much of the farther edge is hidden? How high up on the outline of the sphere does the farther edge of the prism seem to come? How do the left and right edges of the prism seem to run? Where does the sphere seem to touch the top face?

Observation Exercise for Pupils.—What can you think of that is like a sphere? Can you think of something like a square prism? Would it be pleasant to group them together?—*Drawing-book II., page 5.*

Directions.—Consider the proportion of the drawing as to height and width. Study your space and plan for as large a drawing as would be suitable for the space, and proceed according to directions for Exercises 4 and 5, Book I.

EXERCISE V. A.—Square Prism, turned.

Call out the imagination of pupils by encouraging them to see in the model some interesting object,—a trunk, a railroad car, a work-bench, a couch, a writing-table, etc.

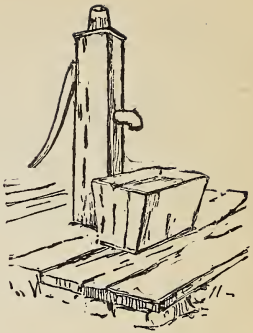
Have the models placed either vertical or horizontal as preferred, but turned at an angle, not squarely facing the observer. Lead pupils to observe carefully the top face of the model so far as it is visible. They will be interested in discovering the peculiar shape it *appears* to have, a shape not in the least like either a square or an oblong. Lead them to notice also the lower edges of the model and discover in what directions these edges extend; whether they slant equally or unequally; if unequally, which edge slants the more.

Speak of drawing as a species of language, a method of talking without sound. Ask pupils to tell with their pencils (first on practice paper) just how their models look. Perhaps no two models may look exactly alike. Each pupil should give an account of his own model.

If the horizontal square prism is very near the observer, he may be looking almost directly down upon it, and his drawing be consequently awkward and ugly. This can be avoided by making a platform of books and placing the prism upon them, to get a more interesting and pleasing effect. Even where the top face actually appears very narrow, pupils are usually inclined to draw it too wide, hence the special desirability of care in placing for study.

Let the same or a different position be chosen for the model, and have a

second sketch made, this time on drawing-book, page 5. Let the first drawing be in light lines; then when the appearance has been carefully shown, finish in lines of varying strength, farther parts in fainter lines, nearer parts in stronger lines.



Much additional practice will be found desirable in order to cultivate the power of observing changes in the appearance of this type-form and of objects resembling it. Pupils should be encouraged to do home sketching and to collect printed illustrations showing similar forms. Encourage them to look at such illustrations critically; that is, to look for beauty and accuracy to be enjoyed and emulated and also to look for faults to be avoided. Many hastily prepared illustrations found in advertising catalogues, etc., show the very same errors into which pupils fall.

Pages 6 and 7. REPRESENTATION.—Grouping Models: Beautiful Objects.

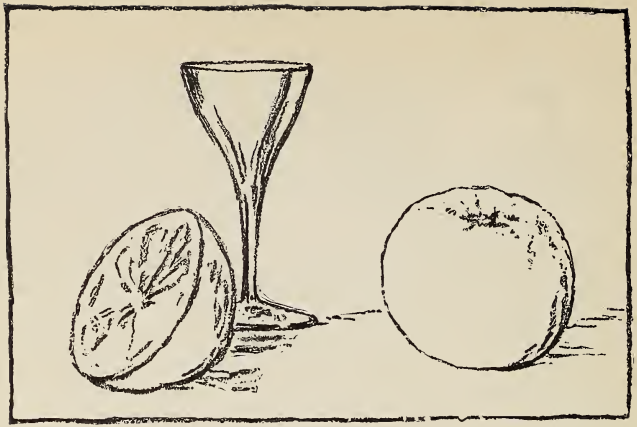
Let simple, beautiful objects be provided for the exercise. Lead the children to arrange harmonious groups, to choose and sketch a group, to study it and draw it in the drawing-book.

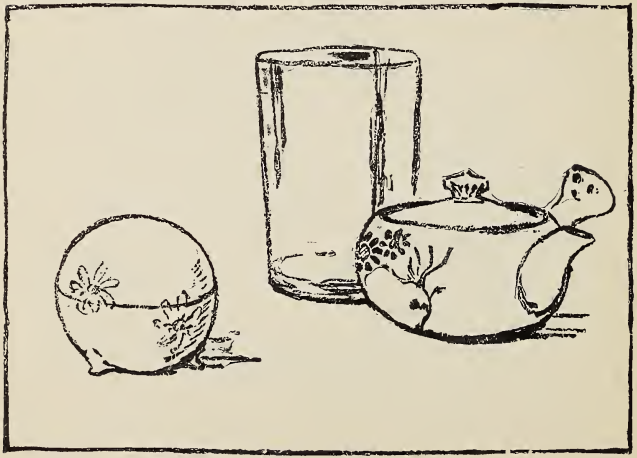
Selection.—The selection of objects by the teacher for this exercise should be made with the greatest care, for the purpose of this work is to so lead the children that they will enjoy and appreciate beauty of form and of composition more and more. In many places it will often be possible for the teacher to borrow from the dealers fine examples of vases and of other pottery; pitchers or jars of good form, simple casts—articles that the teacher may not feel able to buy, and that the children do not find in their homes.

Remember that the most beautiful objects are often the most simple. The finest examples of the ancient Greek vases are marked by their simplicity of outline. One of the elements of good proportion in vase forms is that the divisions should not be equal—one part should be dominant.

Composition.—This exercise should be carried out so as to develop the pupil's powers of composition. No matter how beautiful an object may be in itself, if there is not a harmonious relation between it and the other objects chosen, the picture will lack in that most essential quality—unity. Talk with them about the best arrangement for the objects selected, in order to make good, harmonious groups. (*See* **Arrangement of a Group,** *page 14.*) Three objects will generally give the best effect for a group of this nature. A graceful vase may hold a flower, and a spray of leaves may lie beside the vase. A pitcher of beautiful form, with a cup or glass, and fruit, may be arranged in a group suggesting a cooling drink.

Preparation for the Lesson.—Gain from the pupils all that is possible in the provision and selection of objects, in the composition of the group and in the necessary planning as to proportion, position, and space relations. Endeavor constantly to lead the children to the appreciation and acquisition of good rendering. Lead the pupils to study the groups on the drawing-book pages. Show them the illustrations in the Manual. A close





Familiar Objects.

study of the direct, simple rendering in these examples will aid the children in drawing simply and effectively.

Method.—The outlines of the group itself and then of each object in the group should be quickly and lightly blocked-in. (*See* **Blocking-in,** *page 13.*)

This method of obtaining the first expression of the mass is of so much value that it should be constantly used. The general difficulty with its use in the schools and with young children has been that they drew with too heavy lines, and adhere too closely to the outlines of each object. Teach them to hold the pencils long and very loosely, and to make very light, sketchy lines, feeling, as it were, for the form with the pencil. Try to have them see that they are not now drawing the object, but that they are simply, and as quickly and as lightly as possible showing the size of the drawing and the proportion.

They may make several quick trials on practice paper, studying the objects before each trial, and after completing the blocking-in making a careful comparison with the group.

When ready to draw in the books lead them to plan thoughtfully for the space in which they are to draw. Let them study the illustrative pages in the drawing-book to see how the spaces are filled.

All that the pupil has gained in the understanding of space values will be of assistance to him in this exercise. For this he will be the better able to plan the arrangement of the group, the size of the drawing to look best in the space, and the most pleasing placing on the page. Every such exercise carefully carried out leads to better work.

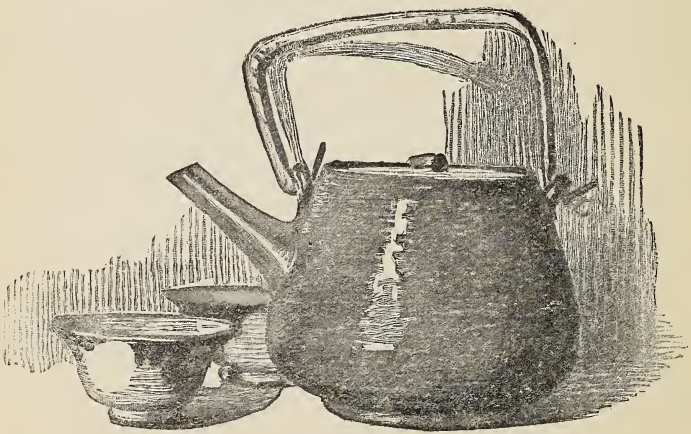
Thought of Beauty.—A fine appreciation of the beautiful in nature, in art, and in life is one of the most precious possessions of the human mind. The perception of beauty may be developed and strengthened by observation and study of beautiful things. It deepens in the mind of the child with

every appeal to the awakened and growing sensibility. The children come to have a loving friendship for things of beauty.

Keats addresses a Grecian urn as—

> "a friend of man, to whom thou say'st,
> 'Beauty is truth, truth beauty,'—that is all
> Ye know on earth, and all ye need to know."

The sense of beauty may be stimulated by a beautiful description of the objects to be drawn or of similar objects. Longfellow's "Keramos" gives many suggestive word-pictures of groups that may be made with the objects. Teachers are referred to Manual for Book I., pages 86 and 118.



Page 8. DECORATION.—Space Divisions.

It will be well to make preliminary experiments on practice paper before drawing in the book.

If an original design is to be made for a tile, use for the underlying idea one of the skeleton outlines given on page 9, Drawing Book II. Keep the design very simple, using only straight lines.

If preferred, notes may be taken from a lesson given by the teacher on Greek Art and pasted upon this page in good arrangement, illustrated perhaps from drawings previously placed upon the board by the teacher. Or good examples of Greek Art (as the Perry pictures) may be pasted in good arrangement upon the page. This will also prepare the way for page 11, Drawing Book II.

Page 9. DECORATION.—Space Divisions ; Light and Dark.

See suggestions for the preceding page. It would be a good plan to make two tile designs alike in space division, varying the arrangement of light and dark.

Designs of this nature have been used for centuries by workers in stone and wood, producing mosaic or "parquetry" floors and wall-surfaces, contrasts of color being produced by different kinds of wood or stone.

Children love creating, and nothing will please them more than designing new arrangements of tiles for page 9, Drawing Book II., and carrying them out with brush and ink.

Page 10. DECORATION.—Examples for Study.

Pupils will like to look for decorative figures like those in the Greek examples. They can often find them in carpets, book-covers, carved or painted woodwork, and especially in church buildings and furniture. The quatrefoil (four-leaved) ornament was a special favorite of mediæval cathedral-builders in Europe. They liked it both for its inherent beauty and for its association with church teachings about the Four Gospels which tell one great story.

The borders at the right and left are Egyptian, though the Greeks later made frequent use of a fret like Figure 1. The Egyptians put a solemn meaning into all their ornament with which we are now familiar, because it was ornament designed for temples, tombs and mummy-cases. The intricate course of the fret in Figure 1 meant to them the wanderings of the human soul through form after form. When the Greeks, later, designed the same or similar ornament, it is probable that they cared only for its beauty as a pattern.

Figures 1 and 3 show how simple contrasts of color may be expressed with the pencil.

Figure 4 is copied from an ancient Persian manuscript in the British Museum. Its origin is uncertain, but, in the original, the lower stem-like part with the spreading leaves was colored green, the upper part rose-red, suggesting that its motive was probably a flower.

Figures 5 and 6 are studies in space-division pure and simple. It is interesting to see what beautiful effects can be produced with few lines and shapes.

Figure 7 is a pictorial sketch of the dwarf-cornel or "bunch-berry," used afterwards as a basis of the tile designs 8 and 9. Notice that 8 and 9 are *not* pictures, but show a decorative treatment of the general form of the growing plant. They also show what different effects may be produced by different arrangements of light and dark, while the actual space-division remains the same.

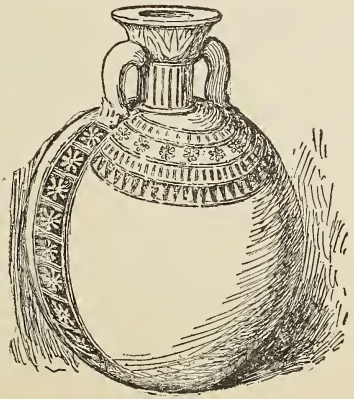
Figure 10, a design suitable for a printed silk or cotton stuff, was made by using the suggestion of a four-petalled flower or a whorl of four leaves.

Page 11. DECORATION.—Optional Exercise.

A Greek week may be carried out much in the same manner as previously suggested for the Egyptian week. (*Manual for Book I., page 97.*)

Unlike Egyptian ornament, Greek has no symbolism. The aim of the Greeks seemed to be the expression of pure form and ideal grace. There is no ornament that shows a finer appreciation of beauty of line, of form, and of space relation than that of the Greek. The elements of Greek art were derived partly from the Egyptians; but they were developed in a new direction, made more perfect, and enriched by a refinement of taste and execution that places Greek art upon a plane of perfection that has never been surpassed. It will interest the children to learn of Greek pottery and the witness it bears to the perfection of Greek form, and to the remarkable ease and firmness of hand possessed by the artists who drew the delicate, graceful ornament.

Allow the children to draw No. 1, Drawing Book II., page 10, from dictation (*see Manual, Book I., page 99*), and then color with yellow and black (using ink) or two or three tints of blue. After the drawing is complete give the whole a wash of blue, then a second wash over the fret pattern and bands, and a third wash may be applied to the border bands.



Page 12. REPRESENTATION.—Pose Drawing.

For general advice, refer to Manual for Book I., page 102, about exercises in pose drawing.

The illustration on page 12 in the drawing-book is given to show simple and effective ways of drawing hair and clothing. Call attention to the lines of the dress in the lap; they show that the thigh is horizontal, and conse-

Fig. 1.

quently make the girl look as if she were really sitting, and not leaning against the support. Lead pupils to notice also the lines in the sleeve near the elbow. They show that the arm is bent at the elbow joint. Without some such sign of muscular action the arm, in its present length, would tend to look dwarfed in size.

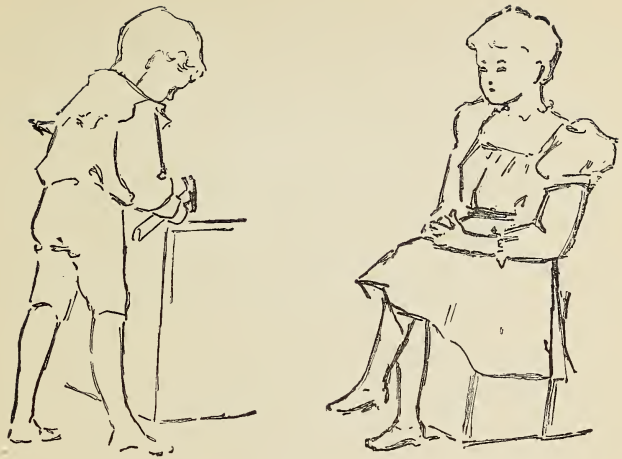


Fig. 2.

Figs. 1 and 2 are suggested as helps in selecting a pose. Dramatic action is of great assistance in preparing for a pose. If a flag-bearer is selected, it would be a good plan to let the children march with the flag to martial music for a few moments before drawing. Indeed, it is helpful to have the children assume, for a short time, any pose that is to be drawn, that they may feel the action. Be careful to avoid a position which will strain any special muscles or set of muscles.

The most essential part of the children's work is that they shall carefully consider the general character and proportion of the figure, to express these in drawing, and also the space upon the drawing-book where it is to be placed, so as to make it look well—not in the middle of the page, but about the middle of the space between the printed copy and the centre of the book.

Page 13. REPRESENTATION.—Imaginative Drawing.

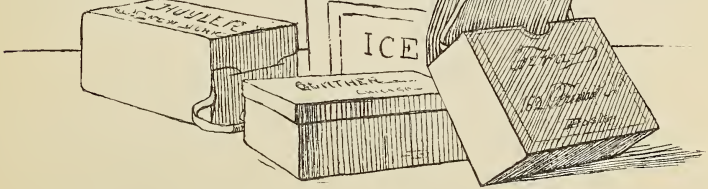
An interesting theme for this exercise may often be found in the history, geography, or reading lesson, recently studied. An illustrative pose—that is to say, a pose taken to illustrate some verse or description, furnishes a good exercise. Illustrations of poems, as a simple landscape to illustrate a fall poem, are suggested. In some localities, rich in historic interest, the children will improve the opportunity for additional sketches of historic houses.

The drawing may be made within an oblong, thus adding the study to produce good space relations, and the charm of the suggestion of a framed picture.

Page 14. CONSTRUCTION.—Pattern Drawing.

A study of the printed pattern-sheet of the square prism will be helpful here. Let pupils think how the pattern would have to be modified to make a box with a hinged cover. Ask them to plan and draw on practice paper a pattern for such a box, making it of good proportions, and, if possible, adapted to some definite use. Draw again on page 14, making such improvements as experience may suggest. Before beginning work on the book-page, plan the size and placing of the pattern so that it may look well on the page. Draw freehand. (*For* **Patterns** *see Manual, Book I., page 107.*)

Boxes.—The variety that can be found in paper boxes is very great. They are made for carrying and protecting light articles, and are adapted in form and manufacture to the special purpose for which they are intended. There are folding boxes which may be packed flat when not in use; there are boxes with folding covers; there are boxes with covers to lift off. Some of these covers are made to fit over the lower part; in others, the lower part is "necked," so that the cover rests on the lower part, and the box is said to be "shouldered." There are also boxes with the upper and lower faces projecting. They are made of all grades of stock, from fine light weight to heavy manilla for the folding boxes, and from rough straw-board to junk-board. They are plain, unfinished, finished with paper bindings, or elaborately covered and decorated.



A box like a cube with a folding cover was given in Drawing Book I.; a box like a square prism, with a folding cover, was suggested in Drawing Book II.

Boxes with covers to lift off, and thus requiring two or more patterns, are studied in this exercise.

Patterns.—Almost all of the articles by which we are surrounded are made from patterns. Clothing, house draperies, furniture coverings, etc., all these are made from patterns. A pattern is anything cut or drawn or formed, to be used as a guide in making an object and serving to determine its exact form and dimensions. Patterns are of two kinds, flat and solid. Flat patterns are used for making articles of cloth and other textile fabrics, as dresses, coats, curtains, bags, etc. They are also used by workers in leather and other thin materials, for cutting out work, as sheet tin or iron, for dippers, basins, etc., and for making boxes and other articles of pasteboard. Solid patterns are used for making the moulds for casting metals. Car wheels, ironware, cannon balls, stoves—in fact, most of our machinery—are cast in iron from moulds made from patterns. The commoner kind of glassware is made in moulds, and for these moulds also a pattern is needed.

Cylindric Box.—The pattern from which a cylindric box can be made is not difficult. The lower part has two pieces,—the bottom and the side; the cover has two pieces,—the top and the rim. The pieces for the cover must be a very little larger than those for the box, to allow the cover to fit over the lower part. In box factories, where they have all the necessary tools for work, the bottom and side of the lower part, as well as the top and rim of the cover, are held together by narrow strips of tough paper, overlapping both pieces. Small laps cut as part of the bottom and top serve very well, however, to join these parts to the side and the rim. In this case the box is to be half as high as its width. The pattern will consist of four pieces,—two circles with laps, and two strips enough longer than the outline or circumference of the top and bottom to lap and paste well.

Square Box.—A box having its upper and lower faces square is called a square box. For the purposes of this exercise, the square box must be as wide and as high as the cylindric box. It is to have a folding cover, therefore the pattern will be in one piece. This piece must include the square top and three narrow oblongs for the cover, and the square bottom and four oblongs for the lower part, all properly adjoining and cut with laps for pasting to hold them

together. Think how the faces are situated with regard to each other, and how they would be arranged if the box and cover were opened out flat.

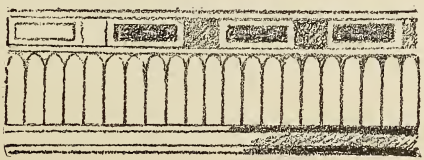
Work out the patterns, draw them, and make two boxes from the patterns before giving them to the class. By doing this, you will be able to give every step intelligently and clearly.

Suggestions for Study by Pupils.—I would like to have patterns for two boxes. Each of these boxes is to be half as high as wide. One of these boxes is circular at top and bottom, and has a curved face between. Can any one tell what model it is like? (*The box is like a cylinder.*) What kind of a box could you call it? (*I could call it a cylinder box*) Yes; or, better, a cylindric box. The other box has the top and bottom square and the sides oblong; what could you call it? (*I could call it a square prism box.*) That is right, but it is generally called a square box. How high were these boxes to be in proportion to their width?

The cylindric box is to have a cover that can be taken off and put on again. How many pieces must there be in the pattern? Of what shape must these pieces be? How will you make them stay together after you have made them? Draw the pattern for the cylindric box on the board.

The square box has a cover that cannot be taken off; the cover shuts down and can be lifted again; it is a folding cover, made in one piece with the box. How could you draw the pattern of this box? Think. (*I could draw a square for the bottom and an oblong on each side half as high as the square.*) What else could you do? (*Then I want the top of the cover, so I draw a square right on the side of one of the oblongs.*) And what else is wanted? (*I need the rim of the cover; I should draw, on three sides of the square, an oblong about one-third as high as the oblongs for the lower part of the box*). How will you make the box stay together?

Making the Boxes.—Cut out the patterns, fold and paste to make a cylindric and a square box. Work with great care, and strive to make the boxes beautiful by their neatness.



PATTERN SHEETS.

Cylindric Box.

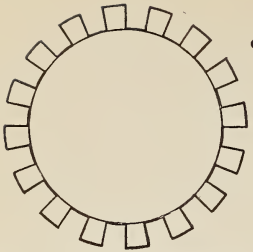


Fig. 1.

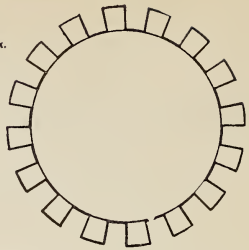


Fig. 3.

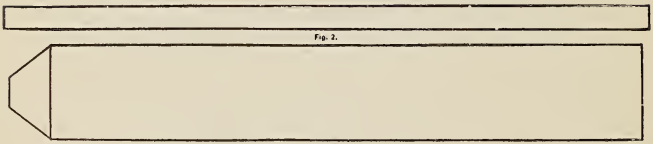
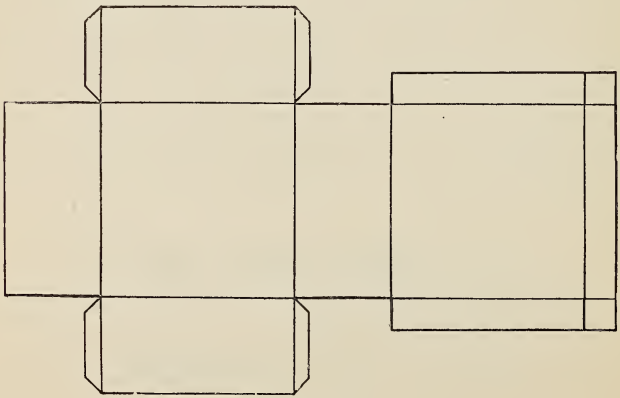


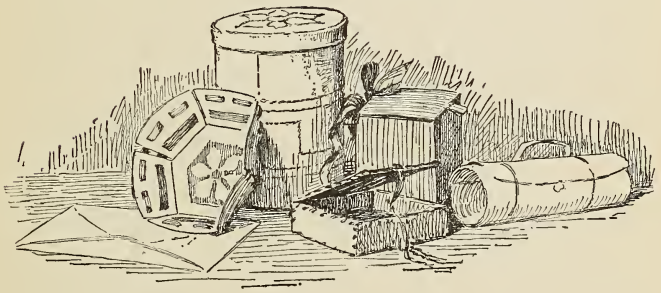
Fig. 2.



Square Box.

Page 15. CONSTRUCTION.—Pattern Drawing.

Repeat the general theme of page 14, drawing this time with the ruler, and aiming at exact measurement. Pupils will have new ideas about their patterns, and will see for themselves ways of improving on what is already done. Freehand work again, unless the manual training makes the above more desirable.



Page 16. CONSTRUCTION. Pattern Drawing : Right-angled Triangular Prism and Similar Objects.

Lead the children to make sketches of patterns of the right-angled triangular prism and similar objects, and to draw a pattern of the model or of a similar object in the drawing-book.

Preparation for the Lesson.—Give a quick review of the model, noting particularly the number, kind and shape of the faces and the proportion and relation of the faces. The surface may be developed as in the preceding exercises. One of the first elements to be considered in drawing a pattern is the proportion of the object. Give particular attention to this in studying the model. Lead the children to see that the height of the model is twice the width of either of the two narrow faces. Consider the surface of the right-angled triangular prism to be developed or spread out flat, and

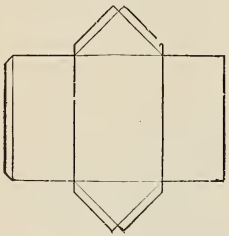


Fig. 1.

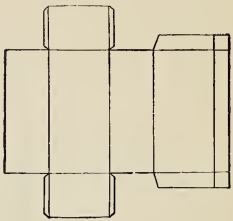


Fig. 2.

question the children as to the resulting pattern. It will be found to consist of three oblong and two triangular faces. Two of the oblongs are twice as high as wide, the third is wider than the others, but of the same height. The triangles are right-angled triangles—two sides being equal and corresponding to the width of the narrow oblongs—and the third side being equal to the width of the wide oblong. A pattern of the right-angled triangular prism is shown in Fig. 1.

It will be well for the children to make first a quick sketch of the pattern the size of the model, and then plan for the enlargement or reduction necessary to adapt the drawing to the space on the drawing-book page. For their

own gain in observation and judgment, the children should do this planning for themselves, but this does not imply that they are to work unaided. The planning may be done as class work, suggestions being called for, and all profiting by the conversation. The teacher should know exactly the size required for the space, in order that the children's plan may be intelligently approved or corrected.

Spirit of the Lesson.—Try to lead the children to think for themselves. Do not let the work be mechanically done from dictation. Let the exercise be such as to develop a desire to be able to make articles that shall be of practical value because of their strong construction and adaptation to purpose, and beautiful because of fine proportion, good workmanship and neatness of finish.

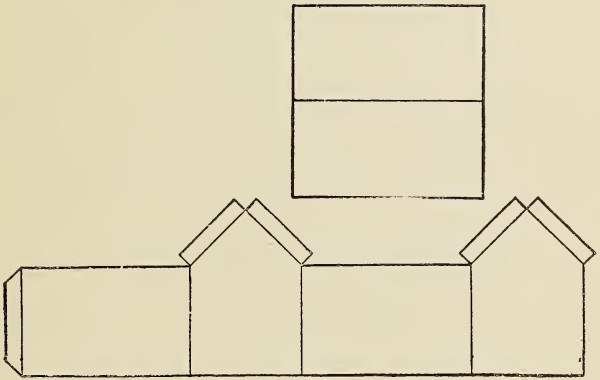


FIG. 3.

Additional Exercise.—If there is more time for work in construction, it will be quite possible at this stage for the children to plan successfully for patterns of simple articles to be made from pasteboard, leather-board, or other light, strong materials, using the patterns of the models as the basis. If this work is done with the thought of giving pleasure to others, as the making, for some younger child, of a toy trunk from the square prism pattern, or a corner cupboard for the doll-house of a little sister from the pattern of the

right-angled triangular prism, it will result in a gain for the altruistic side of the child's education. A pattern of an oblong box is shown in Fig. 2.

Some ingenious pupil may be able to plan a pattern that will combine parts of two of the patterns, as a toy-house from the square and triangular prisms. Encourage all work that will tend to develop creative ability. In Fig. 3, there is given an illustration of a pattern of a toy-house. The pupils can study out the pattern from the models—the square and right-angled triangular prism combined. It may be necessary to call their attention to houses and to ask them why the roof overhangs the walls at the ends and sides. Even toy work should conform to good construction as far as possible.

Value of Making.—The value of such work lies, not in the worth of the material product, but in the creative power and accurate thought developed by the pupil. But the object made must be of some value to the child,—a gift to bring pleasure to another, an article that shall serve some practical purpose for himself,—a definite and planned-for outcome of his labor. To fulfil its highest aim there must be a directing of his creative energy toward a production worthy in its purpose, and embodying in its construction the best thought and skill of the maker.

Longfellow's "Builders" will lead the thought of the children to truth and honor in labor. Lowell tells us,—

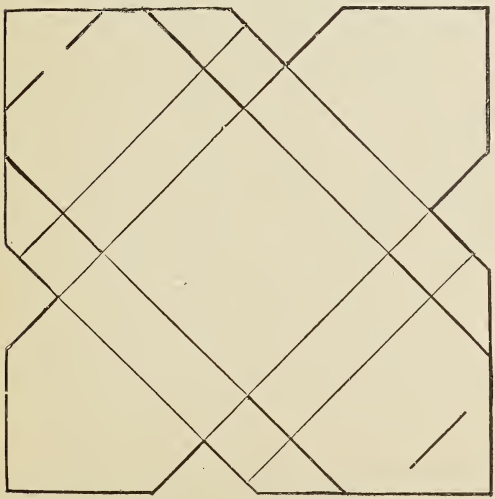
> "No man is born into the world whose work
> Is not born with him; there is always work
> And tools to work withal, for those who will;
> And blessed are the horny hands of toil!
> The busy world shoves angrily aside
> The man who stands with arms akimbo set
> Until occasion tells him what to do;
> And he who waits to have his task marked out
> Shall die and leave his errand unfulfilled."

Page 17. CONSTRUCTION.—Optional Exercise.

See page 116 of this manual for suggestions about the designing of envelopes. So many different kinds of envelopes are useful for different purposes that several exercises might profitably be devoted to the subject.

Bear in mind that the purpose of such exercises is to develop the pupil's practical common sense, his constructive imagination, and his mastery over his own hands. If additional work in construction is desired for the class or for special individuals, a paper box made by folding and cutting, without the use of glue, will be found interesting. The pattern, as shown here, may be drawn on the board and copied to occupy a 6 x 6 square paper. Cutting should be done on *the heavy lines only.*

The light lines are for creasing and folding. A little familiarity with the pattern will enable ingenious pupils to fold without drawing the light lines at all. Make up, as shown in the sketch on the drawing-book page This box was made from a six-inch square of paper according to the given pattern. The base is $2\frac{1}{2}$ in. x $2\frac{1}{2}$ in., the sides $\frac{3}{4}$ in. deep. The slits in the triangular corner flaps were cut $\frac{3}{4}$ in. from the vertices of the flaps.



Boxes made in this manner may show a great variety of forms

according to the way in which base and sides are proportioned to each other. Beauty of proportion should always be aimed at.

The Envelope.—This is an object of comparatively modern use. Fifty years ago it was hardly known. Letters were written on the large sheets of paper, known as letter size. As postage was expensive in those days —eighteen and three-quarter cents for a letter—it was necessary to write as much as possible in one letter, for but few could afford to send a letter very often.

The first, second, and third pages were written upon, and the upper and lower parts only of the last page, for the middle half was reserved to make the outside of the letter when folded. Folding a letter then was quite a different matter from folding a letter now, to put into an envelope. After the letter was written, it was placed upon the table with the first page in sight. Both pages were taken together at the bottom and folded up, so that the lower edge reached to the middle of the sheet, making a horizontal fold, which was creased firmly. The sheet was then turned around so that the top became the bottom, and that part was folded over to the middle, making another horizontal fold. The folded sheet was now turned so that what was originally the left edge was toward the writer. That part was folded over toward the back so as to make a well-proportioned oblong. This oblong was folded over again, and the doubled edges of the first oblong were slipped in between the double edges of the last oblong. If you try to carry out this folding with a sheet of paper, you will understand the different steps. The letter was then sealed with sealing-wax or with a wafer. The wafer was a very thin circular disk made of some material which adhered when moistened. The wafer was moistened and placed between the outer fold and the body of the letter to hold it together. Later, the fashion came of folding the corners of the last oblong so as to produce a pointed flap, something like that of an envelope. After a time, some one thought that the whole letter sheet might be used for writing, and a blank piece of paper put around it to keep it in good order and to secure its contents from being read. Gradually the envelope took its present form with its gummed flap.

Envelopes have now a much wider use than for letters only; they are used for circulars, for documents, for samples of goods, for various small articles

of merchandise and manufacture. They are consequently made of various materials, in various forms, and with various fastenings. The material used varies from the thinnest packet-post paper to heavy manilla cardboard and cloth-lined paper, where great wear is expected. Envelopes are generally flat, but some envelopes for documents, photographs, etc., are made like an oblong section of a square prism. The gummed flap is the usual way of fastening, though sealing-wax is still used by many. There are also other methods of fastening. A grommet (a brass fastener) is frequently used, while envelopes for documents are provided with eyelets and tape. The plain side of the envelope is called the front, or "face," of the envelope; the other side is called the back, or "seal side." This exercise furnishes the foundation for quite a variety of manual work.

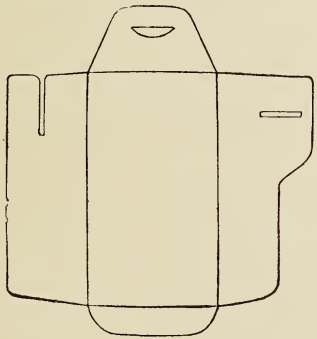


FIG. 1.

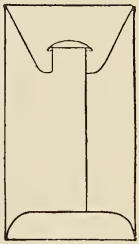


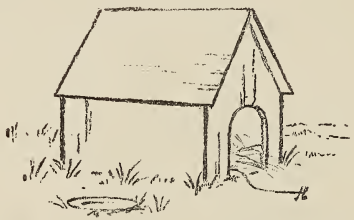
FIG. 2.

Judgment of Proportion.—As has been said, the proportion of an object becomes more beautiful as it becomes more subtile. The more subtile proportions cannot be expressed in whole numbers, and it is not well to try to express proportion by the use of fractional numbers. They can be expressed, it is true, with the closest mathematical accuracy, but this is not to be desired. In studying for the exact mathematical expression, the attention is directed to that point to such a degree that the feeling for the whole form or figure is

frequently quite lost. An approximate statement in whole numbers of the proportion of any figure is much better than an elaborate statement in fractional numbers. Some room may be left for the exercise of the judgment.

Drill.—As pupils have not had any drill upon straight lines since the first part of the book, an exercise might be given here to prepare them for the lines of the envelope. A drill exercise should be short; it should not occupy ten minutes. (*See pages 28 and 29.*)

Making a Box.—An illustration is given on page 179 of the pattern of an envelope, Fig. 1, and of the same envelope folded, Fig. 2. It will be seen that the tongue seen on Fig. 1, at the left, serves to fasten the envelope when closed, as in Fig. 2. The envelope is pasted across the bottom, and up the vertical line to the notch. This device has been patented, and the envelope is used largely by manufacturers and merchants in sending out samples by mail. A box can be made from stiff paper, having the form of a square prism, and a cover which can be fastened with a similar device.



Page 18. REPRESENTATION.—Grouping.

Refer to page 14 of this manual for suggestions about the arrangement of groups of models or objects, and to Manual for Book I., pages 82 and 118. Encourage pupils to arrange groups which shall give a pleasing effect and at the same time tell some story. For example, a boy's cap grouped with a top and two or three marbles might suggest "Spring is here." A tea-pot with a cup and a saucer might mean "Five o'clock tea." A candy-box and a spray of flowers might suggest "Somebody's birthday." Pupils will have good ideas of their own if once set to thinking.

The rendering of a group of objects – that is, the quality and the variety of line used, should be such as to suggest the leading ideas of a group. Therefore, in completing any drawing, keep in mind the whole thought which is to be expressed, and aim to express as far as possible, by the rendering, the same ideas that were especially considered in the arrangement of the group.

The rendering should be such as to show the relative importance of the parts of a group or a picture. (*See page 12.*)

Page 19. REPRESENTATION.—Grouping, Rendering.

Object: To arrange a group and to draw its mass by simply blocking-in.

Grouping.—An exercise on the arrangement of a group was given in Book I., but as there will doubtless be some pupils who have not had such an exercise, and as a review will be profitable to all, it will be well to develop ideas of arrangement again, something after the manner given for that exercise.

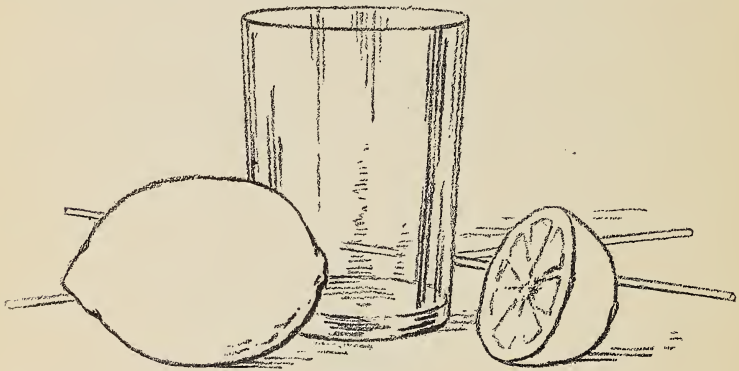


Fig. 1.

Almost all pupils will have seen a photograph of a family group, and thus the name may be familiar to them although the idea may not be very clear in their minds. This thought can be used in developing the lesson. Opportunity could be taken also to show that a photographic group, or any picture of a group, is not pleasing when the faces are all looking straight forward, because there is then no evidence of the interest of the people in each other, which is one of the elements of a group which make it attractive.

It must not be forgotten that the objects in a group should be such as naturally belong together. If the natural objects are fruits, the other object should be one that properly accompanies fruits. If the objects are vegetables,

the object chosen should be one that properly accompanies vegetables. In the illustrations on the drawing-book page, this thought has been carried out. Fig. 1 at once suggests lemonade; Fig. 2 suggests refreshment in general by water and fruit.

Blocking-in.—There is no means of getting so quickly the general shape of a group as by blocking-in. But very few lines should be used in blocking-in, for if every change in direction should be represented by a line, the process of blocking-in would become that of studying details. Studying the whole or

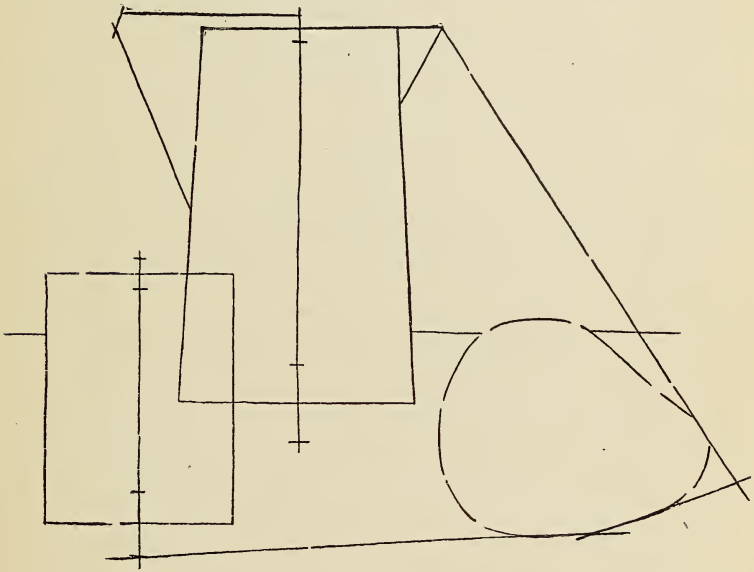


Fig. 2.

the mass should be the first step always. The illustrations, Figs. 1 and 2, will show how a few lines will bring out the general mass; a few more have been added to bring out each object as a whole.

Page 20. REPRESENTATION.—Spring Flowers from Nature; Life and Growth.

The teacher must guard against the tendency of all children to draw the flower too small for the stem and leaves.

Placing on the Page.—Consider the spaces to be filled between the printed picture and the centre of the page. Bisect it vertically by a short stroke line which may be easily erased when everything is complete. On the left of the stroke line make a pictorial drawing (Manual, page 17) of the flower before you. And upon the right side of the stroke line make a decorative treatment (Manual, page 19). Keep all effects simple, and without many details.

As the subjects on this page come in the spring, such flowers as the dandelion, narcissus, tulip, trillium, buttercup, and jack-in-the-pulpit may be gathered and brought by the children.

With reference to the pictorial effect (Book I., page 125), whatever flower is selected, let the space on the page be considered in reference to the subject, and the subject in reference to the space. A graceful arrangement is easily made through thoughtful observation and study of space relations; thus the pupil may do more than reproduce what he sees when he adds the result of the best arrangement of what he sees. In lining-in, render good and delicate by strengthening near parts, and keep subordinate parts weaker. For example, the side that expresses shadow may be darkened; the nearer object stronger than a farther; the nearer parts of the same object stronger than a part more remote.

With reference to the decorative effect of page 20, consider good spacing and draw an oblong 5 in. by 3 in., within which adapt the pictorial drawing to the enclosing figure. Be careful to arrange the spray so that it may not look top heavy. Let the principal object come towards the centre of the oblong, a little above, perhaps, and place more delicate objects towards the top.

Guard against too much stem effect. Let top stems, single and delicate, enlarge into stronger and broader as they go towards the bottom. The lining-in of the decorative treatment is uniform throughout; no variety of light and shade effect as would appear in the pictorial study.

We might make a study in light and dark here, if practicable, by the use of the brush and ink, as shown upon page 20 of the drawing-book.

Page 21. REPRESENTATION.—Optional Lesson from Nature: Animal Studies; Action, Proportion.

Lead the children to make sketches of an animal in different positions, to study its general characteristics, and to draw it in the drawing-book, with very little detail, seeking for truth and beauty.

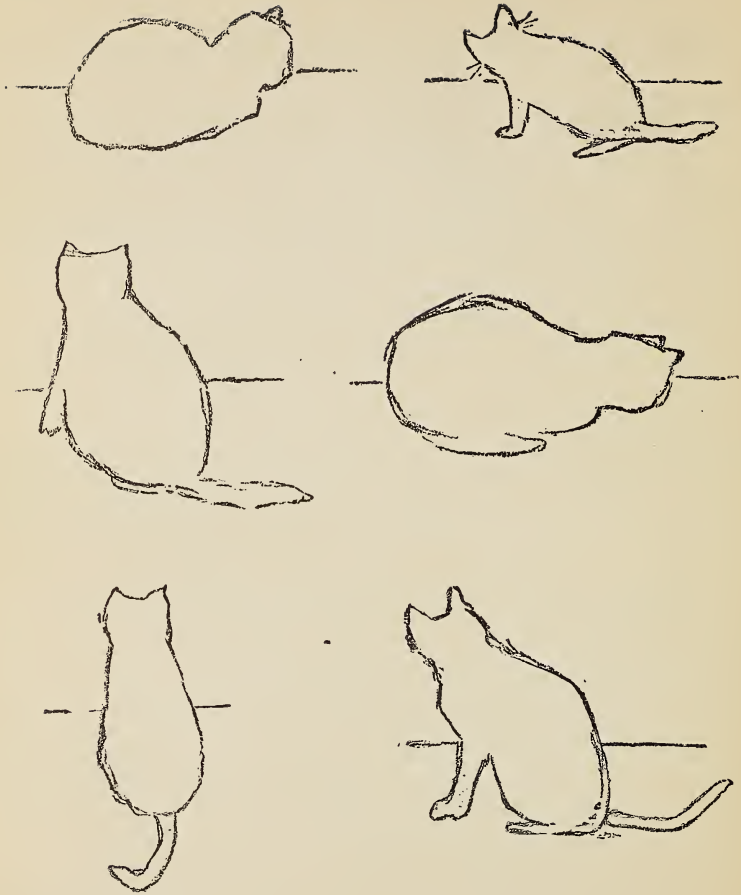
If pet animals are studied, give the chief thought to proportion and action. A very few lines may give the effect of life much better than a labored showing of all the details. Notice, in the illustrations, how the line used suggests fur rather than bare skin or hide.

If flowers are chosen for study, as motives for composition in oblong panels, let the pupils try several experiments on practice paper first. Each experiment will suggest another—perhaps a better arrangement of spaces or of masses of dark and light.

From Life.—If possible to secure a live animal—a cat, kitten, dog or rabbit will make a good model—from which to draw, the interest of the children will be greatly deepened. A warm affection and perfect understanding usually exist between the children and their four-footed comrades, and the children will most earnestly endeavor to make "a good picture" of these friends.

Preparation for the Lesson.—Better drawings will result if the presence of the model can be obtained several days before the drawing lesson. During these visits of the model to the class the attention of the children may be called to the distinguishing characteristics, to the pose most frequently observed, and to the matter of proportion. By such observation the child's mental pictures are each time gaining in distinctness, and this clearness of thought will manifest itself in the drawing which is to be the outcome of the study. The model will, of course, assume various positions, and when the children draw, they will learn to work quickly in order to catch the spirit and will make many sketches in a very short time. Children's practice sheets now resemble artists' note-books in their variety of drawings of one subject.

Suggestions to Pupils.—Make four or five quick sketches of the model on practice paper, just as it looks to you. Study the illustration on the drawing-book page for suggestions as to rendering. See how much is left unexpressed, and yet that the few



lines given are all that are needful. A very few strokes abundantly suggest the furry coat of the cat, as illustrated on the opposite page, or as seen on page 21 of the drawing-book.

Fill another sheet of practice-paper with sketches. Study the model all the time. Decide on a position that would look well on the drawing-book page and draw it in the book very simply—hardly more than blocking-in—making it of a suitable size for the space.

Another Method.—Let the children sketch first from memory, then make several sketches from the model, drawing with straight lines as much as possible. The model may be kept through the session, and the children allowed to sketch at will.

The best sketches may be cut out and mounted for a little exhibition.

Spirit of the Lesson.—The highest result of the lesson is not obtained if it does not lead to gentle thoughts and tender treatment of all dumb animals.

Page 22. REPRESENTATION.—Nature.

The purpose of copying here is to emphasize in pupils' minds the beauty of very simple drawing, well composed, to fill a given space. Why is a horizontal oblong especially appropriate for this seashore subject? Why was the composition marked B (drawing-book, page 23) given a vertical space?

Encourage pupils to try to make outline sketches out of doors.

Of course, the picture must be enlarged or modified to adapt the drawing to an area of different proportion or shape.

Page 23. REPRESENTATION.—Space Relations in Landscape.

Study good pictures of landscapes for suggestions. Pupils in this grade should be able to work with greater intelligence on account of their longer study of the subject.

The object of the exercise is to develop ideas of space relations,—of proportion and placing. This exercise presents so much that is new to the children that it is well for the teacher to have the work thoughtfully planned before beginning the lesson. The number of oblongs, the shape, the proportion and placing of the areas to be occupied by the drawings must be carefully considered and definitely determined.

When a landscape is attempted within an oblong, the horizon or sky line gives a better effect when rather high or rather low. It should never cross the oblong, and it is better to avoid placing it upon a fourth or a third of the space. In fact, unequal spacing produces the best effect.

Try to have the work done quite quickly, so that the best thought of the composition will not be lost. (*Refer to Book I., page 130.*)

Page 24. PICTURE STUDY.

See the general suggestions regarding Picture Study on pages 133 and 134, Manual for Book I.

The study of good landscape pictures can do a great deal to open children's eyes to the beauty in their surroundings.

Jean François Millet (1814-1875), one of the great modern painters, was born at Gruchy, France. He was born a peasant; his father and mother were peasants, and together they toiled in the fields. His father, however, found time to see the beauties of nature and to point them out to the boy, saying to him of a tree, "How beautiful! It is like a flower." He also tried to model figures in clay for his son. One of the professors of the High School at Versailles, who chanced during his vacation to meet and talk with young Millet, said, "I have met a child whose soul is as charming as poesy itself." When Millet was eighteen years old he drew with a bit of charcoal, upon a white wall, the picture of a tree, or an orchard, or a peasant plodding home from work. They talked these things over at home, and decided that Jean should study to be an artist. His teachers in Cherbourg could not help him much; and in 1837, at the age of twenty-three, he went to Paris to the studio of the famous artist Delaroche. He was a fair, broad-chested peasant, with long light hair falling loosely about his shoulders; his fellow-students called him "the man of the woods."

He soon left the studio of Delaroche, and supported himself by sign-painting, by painting portraits, and by making copies of the great pictures in the galleries; thus he studied the old masters. Yet he kept in his heart the peasant life that he knew so well and which was so full of humanity. He constantly heard what he called "the cry of the earth," and he portrayed it in his pictures of peasant life. In 1849 he left Paris and went to Barbison, taking a house of three rooms. He lived there with his family and painted, happy in his privations, for he was again in the midst of his inspiration, the peasant life of toil—"the true humanity, the great poetry." There he worked, and there he died in 1875.

Among his best pictures are "The Gleaners," "The Sower," "The Sheep Fold," and "The Angelus." He was known, however, as well by his drawings as by his paintings; and some of his best drawings have been reproduced for these drawing-books, that they may stand as an inspiration to the children.

The "story" of this picture will be obvious to the pupils, but they may not notice at first some of the little touches which show the artist's keen appreciation of summer weather. See how the darkly shadowed side of the tree-trunk sets off, by contrast, the warm light flooding the field beyond where the man

and oxen are at work. Notice how perfectly the cool, rippling water is indicated.

Children in this grade can begin to understand that a well-composed picture gives most space to that which is most interesting at the time. In Millet's drawing the artist wished us to think of the warm earth and the cool water, and he took most of the space for these, *suggesting* the sunshiny sky by the dark shadows. Let pupils study other landscape pictures as opportunity occurs. (*See Manual for Book I., page 29.*)

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